



## **A Relational Perspective on the Development of Psychosis**

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June 2018

Submitted in partial fulfilment of the Doctorate in Clinical Psychology,

University of Liverpool

### **Acknowledgements**

There are many people who I am grateful to for their support in the development of this thesis. Firstly, I would like to thank my supervisors, Kate Bennett and Claire Seddon, for their guidance, encouragement, and flexibility throughout what has been at times an uncertain research journey. I would also like to say a big thank you to Ross White and Jim Williams for providing me with continued guidance and support throughout the post-Viva period. Secondly, I would like to thank all the CAT practitioners who kindly offered to participate in my empirical study, as without them, this would not have been possible. I would also like to thank the Experts by Experience for their consult on the empirical study.

I would like to thank Beth Greenhill and the Liverpool DClinPsy team for their kindness, practical advice, and emotional support when I needed it the most. I would also like to specifically thank one of my peers, Craig Hallam, for buddying up with me to conduct the study selection and appraisal process of the systematic review. Finally, I would like to say a special thanks to all my family, friends, and peers, who have been so patient, understanding, and provided endless support throughout the last three years.

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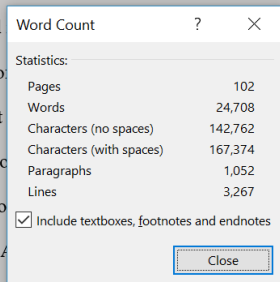
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**Word count: 24,708**  
(excluding references)

**Introductory Chapter: Thesis Overview**

This thesis provides an exploration into early interpersonal trauma, attachment styles, social functioning, reciprocal psychoanalytic processes associated with experiences of this thesis: (1) a systematic review examining the current en adverse childhood experiences and social function psychosis, compared to those without adverse childhood qualitative study exploring cognitive analytic therapy (CA their experiences of applying a preliminary model of CAT for psychosis (Kerr, Beard, Crowley, & Simpson,



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Pages	102
Words	24,708
Characters (no spaces)	142,762
Characters (with spaces)	167,374
Paragraphs	1,052
Lines	3,267
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### **Introductory Chapter: Thesis Overview**

This thesis provides an exploration into early interpersonal trauma, attachment styles, social functioning, reciprocal roles and procedures, dialogic and psychoanalytic processes associated with experiences of psychosis. Two papers encompass this thesis: (1) a systematic review examining the current literature on the relationship between adverse childhood experiences and social functioning of adults with experiences of psychosis, compared to those without adverse childhood experiences; and (2) an original qualitative study exploring cognitive analytic therapy (CAT) practitioners' reflections about their experiences of applying a preliminary model of CAT for psychosis (Kerr, Beard, Crowley, & Simpson, 2000) in practice and research contexts. This introductory chapter provides a brief overview of the two papers.

Chapter 1: The systematic literature review explored the association between childhood adversity and social functioning of adults with clinical levels of psychosis, in comparison to clinical and non-clinical control groups without childhood adversity. Five databases (PubMed, Medline, PsycINFO, Scopus, and CINAHL Plus) were searched up to May 2018. Ten studies were identified, and each was appraised for methodological quality. Six of the studies showed significant negative associations between childhood adversity and premorbid social functioning (particularly during adolescence) within first-episode psychosis samples. Two of the studies showed no significant associations between sexual and/or physical abuse and current social functioning in chronic psychosis samples. The findings were discussed in relation to methodological limitations, and the clinical need to consider a history of interpersonal trauma and social functioning difficulties when working clinically with this population was emphasised.

Chapter 2: The empirical study aimed to further develop and refine the preliminary model of CAT for psychosis (Kerr et al., 2000), from CAT practitioners' perspectives. A

qualitative design using a constructivist approach to grounded theory methodology was chosen. Semi-structured interviews were completed with nine CAT practitioners working in secondary mental health services across the British Isles. A revised CAT-based model of psychosis emerged from analysis. A number of additional psychosocial processes were identified that could enrich the preliminary model, including individual and social context, insecure avoidant attachment styles, intolerable core emotions and internal dialogue, defence mechanisms, and specific maladaptive reciprocal roles associated with the development of delusional and hallucinatory experiences. These processes that underpin the final model were discussed in relation to existing research and theoretical developments in CAT, cognitive psychology, attachment, and neuroscience. Clinical implications, methodological critique, and suggestions for future research were also discussed.

### References

- Kerr, I. B., Beard, H., Crowley, V., & Simpson, I. (2000). Cognitive analytic therapy (CAT) - based approaches to psychotic disorders: A preliminary model. *Acta Psychiatrica Scandinavica*, 102(Suppl. 404), 6-7.

## **Chapter 1: Literature Review**

### **The Impact of Childhood Adversity on Social Functioning in Psychosis: A Systematic Review.**

Word count: 7,645<sup>1</sup>

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<sup>1</sup> Paper prepared for submission to the *Clinical Psychology Review* journal for peer review. Author guidelines are in Appendix A. The American Psychological Association (2010) 6<sup>th</sup> Edition referencing style is used.



### **Abstract**

*Background:* Whether childhood adversity affects the likelihood of poor social functioning in people who later develop psychosis remains unclear. The aim of this systematic review was to synthesise the existing literature exploring the relationship between adverse childhood experiences and social functioning of adults with experiences of psychosis, in comparison to clinical and non-clinical control groups without adverse childhood experiences.

*Method:* Five databases (PubMed, Medline, PsycINFO, Scopus, and CINAHL plus) were searched up to May 2018 for relevant terms and only included English language peer-reviewed journal articles. Ten studies were identified and were of observational design. Methodological quality of studies was assessed using a modified Newcastle-Ottawa Scale.

*Results:* Six of the studies showed significant negative associations between childhood adversity and premorbid social functioning (particularly during adolescence) within first-episode psychosis samples. Two of the studies showed no significant associations between sexual and/or physical abuse and current social functioning in chronic psychosis samples. Nine of the studies used different measures to assess for current social functioning, yielding mixed and non-comparable findings. Depression, neuroticism, insecure attachment, and age at exposure were identified as potential mediators. Effect sizes ranged from small to large.

*Conclusions:* This review provided initial evidence that childhood adversity can be associated with premorbid social functioning impairments during adolescence, which may persist into adulthood for some people with experiences of psychosis. However, methodological limitations precluded a causal inference. More robust longitudinal studies are needed. Clinicians ought to consider a history of interpersonal trauma and social functioning difficulties when working clinically with this population.

*Keywords:* Childhood adversity, social functioning, first-episode psychosis, schizophrenia, cross-sectional, Newcastle-Ottawa Scale, systematic review.

## Introduction

Childhood adversity is a broad term that signifies exposure to a range of traumatic experiences, typically before the age of 16 years, including psychological, emotional, physical, or sexual abuse, neglect, and bullying (Bernstein et al., 1994; 2003). Over the last two decades, several studies have asserted a relationship between childhood adversity and the risk of developing psychosis (Bailey et al., 2018; Coughlan & Cannon, 2017; Gibson, Alloy, & Ellman, 2016; Mansueto & Faravelli, 2017; Trotta, Murray, & Fisher, 2015). For other studies, the current evidence is not so clear cut (e.g., Susser & Widom, 2012). Morgan and Gayer-Anderson (2016) argue that not all people exposed to adversity in childhood go on to develop psychosis, and resilience coping could be a possible protective factor (Crush, Arseneault, Jaffee, Danese, & Fisher, 2018). The studies investigating childhood adversity in psychosis have methodological weaknesses and gaps, thus findings are advised to be interpreted with caution at present (Morgan & Gayer-Anderson, 2016).

Nevertheless, exposure to early trauma has often been associated with lifelong negative consequences in relation to psychological, emotional, physical, neurobiological, cognitive, and social functional outcomes (Currie & Widom, 2010; Enlow, Egeland, Blood, Wright, & Wright, 2012). It has been suggested that early adolescence is a critical period for the aetiology of psychosis (Jaworska & MacQueen, 2015), leading to researchers investigating specificity of effects and mechanisms underlying the link between early exposure to adversity and the onset of psychosis (e.g., Hardy et al., 2016). Probable factors mediating this relationship include emotional dysregulation, neurocognitive impairments, depression, insecure attachment, social cognition, and dissociation (Cotter, Kaess, & Yung, 2015; Fisher et al., 2013; Lincoln, Marin, & Jaya, 2017).

While evidence on the potential mediators and moderators between childhood adversity and the development of psychosis is growing, relatively limited research has

focused on the specific effects of impaired social functioning on this relationship (Boyda & McFeeters, 2015). Some people exposed to childhood adversity may have difficulty trusting significant others (Boyda & McFeeters, 2015). Alink, Cicchetti, Kim, and Rogosch (2012) found that children exposed to maltreatment were more likely to exhibit aggressive, disruptive, and socially withdrawn behaviours than children not exposed to maltreatment, which intensified with exposure to multiple and prolonged traumatic experiences. Current evidence indicates that adverse childhood experiences may have an impact on social functioning over the life span (Hughes et al., 2017; Ogle, Rubin, & Siegler, 2013).

Other studies have found that childhood adversity is also connected with a greater risk of developing poor self-esteem, sense of self, fewer friendships, low satisfaction with relationships, and low perceived social supports (Hughes et al., 2017). Furthermore, people with adverse childhood experiences (particularly close interpersonal trauma) are more likely to isolate themselves from family and friends, subsequently affecting their social skills and interpersonal functioning (Monnat & Chandler, 2015). This may be a result of the timing of adverse experiences, given that attachment patterns of relating to self and others are initially formed in childhood (Malekpour, 2007; Riggs, 2010). In sum, the effect of multiple and/or prolonged adverse experiences in childhood is likely to continue into adulthood, manifesting in a range of functional difficulties (e.g., lifelong social functioning impairments) (Hughes et al., 2017) and psychiatric disorders (Kessler et al., 2010).

Psychosis is generally associated with severe impairments in social functioning (Heering et al., 2016). Such impairments can negatively impact on communication and interaction with others, family relations, self-care, and use of public and community services (Viertiö et al., 2012). Furthermore, people with experiences of psychosis may be less likely to be in a romantic relationship, independent, employed, or satisfied with interpersonal relationships, possibly increasing social isolation (Couture, Penn, & Roberts, 2006). Mistrust

of others may clinically manifest itself as social withdrawal and paranoid delusions (Fett et al., 2012). Social functioning impairments may be present prior to the onset of first-episode psychosis (premorbid functioning), in childhood and adolescence (Kelleher et al., 2013; Tarbox & Pogue-Geile, 2008), and remain stable over the course of the psychotic experience (Cornblatt et al., 2012; Velthorst et al., 2016).

Despite studies relating social functioning impairments to psychosis, as well as to childhood adversities, less is known about the impact of childhood adversity on the social functioning of people with experiences of psychosis. An increasing number of studies have explored the associations between childhood adversity and social functioning problems among adults with psychotic disorders. For example, Daglas et al. (2014) found in their study that the people with experiences of first-episode psychotic mania and early interpersonal trauma had significantly poorer social functioning outcomes 12 months following a first-episode of psychotic mania, with a medium effect size.

The literature in this area has adopted the use of different designs (e.g., case-control), assessments (e.g., audit tools), and populations (e.g., sub-clinical). However, the effect of childhood adversity on the social functioning of people with clinical levels of psychosis has not been systematically explored. Identifying the strength of this association in a clinical sample with exposure to childhood adversity, in comparison to a control group without exposure to childhood adversity, could inform the development of more effective therapy modalities to help alleviate distress and increase resilience coping (Dye, 2018).

### **Aims and Objectives**

In lieu of the above, this review aimed to systematically evaluate the current evidence available on the association between childhood adversity and (premorbid and current) social functioning of people with clinical levels of psychosis. The objective was to test the

hypothesis that exposure to childhood adversity would be significantly related to poorer social functioning in the clinical samples, compared to the clinical and non-clinical control groups without exposure to childhood adversity.

### **Method**

This review was conducted in accordance with the guidelines produced by the Centre for Reviews and Dissemination (2009), and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Moher, Liberati, Tetzlaff, Altman, & the PRISMA group, 2009).

#### **Search Strategy**

A systematic literature search was completed in May 2018. Five electronic databases (PubMed, Medline, PsycINFO, Scopus, and CINAHL Plus) were searched for relevant published literature, with no date restrictions. The following search terms were used within keywords, titles, and abstracts: (advers\* or traum\* or maltreatment or abuse or neglect) AND (social or attachment or interpersonal) AND (psychosis or psychotic or schizo\* or hallucinat\* or delusion\*). The searches were limited to peer-reviewed journal articles that were published in the English language only.

Studies were included if they (a) were of observational design; (b) recruited a clinical sample of people aged 16-64 with a primary diagnosis of psychosis; (c) reported data on the exposure of childhood adversity; (d) included a clinical and/or non-clinical control group of people not exposed to childhood adversity; (e) used clearly defined quantitative measures (structured clinical interviews, diagnostic or screening tools) of adverse childhood experiences, social functioning, and psychotic symptoms; and (f) reported outcomes on the associations between childhood adversity and (premorbid and/or current) social functioning

in psychosis. For the purposes of this review, the term childhood adversity was defined as traumatic life events that occurred before the age of 16 years, such as emotional, physical, or sexual abuse, or emotional or physical neglect (Bernstein et al., 1994; 2003).

Studies were excluded if they (a) were thesis/dissertations, case reports, review articles, qualitative papers, conference abstracts, or book chapters; (b) recruited non-clinical samples only; (c) did not include a control/comparator group of people without exposure to childhood adversity (to limit this review to studies with a higher level of evidence quality); (d) reported data on the exposure of adversity in adulthood only; (e) used non-validated measurement tools; and (f) only used the Global Assessment of Functioning (GAF; American Psychiatric Association, 2000) scale to measure social functioning. The GAF scale was excluded from this review because it provides a single measurement of global psychosocial functioning, rather than social functioning per se (Aas, 2010).

### **Study Selection**

The initial electronic database search identified a total of 6,757 published studies. This reduced to 2,473 published studies after removing duplicates. Two authors (first author, S.H. and another student, C.H.) then independently screened the titles and abstracts of identified studies, against the inclusion and exclusion criteria. There were no disagreements in the decisions made for study selection. The full text papers of the 23 selected studies were then independently assessed and appraised by the two authors. Two further relevant studies were identified by a manual search of the reference lists from the full text papers, and also assessed for eligibility in this review. The study selection process resulted in a total of 10 published studies which fulfilled the inclusion criteria (Alameda et al., 2015; Boyette et al., 2014; Conus, Cotton, Schimmelmann, McGorry, & Lambert, 2010; Haahr et al., 2018; Kilian et al., 2017; Lysaker & Larocco, 2009; Lysaker, Meyer, Evans, Clements, & Marks, 2001;

Palmier-Claus et al., 2016; Stain et al., 2014; Trauelsen et al., 2016). Figure 1 provides an overview of the study selection process using the PRISMA flow chart (Moher et al., 2009).

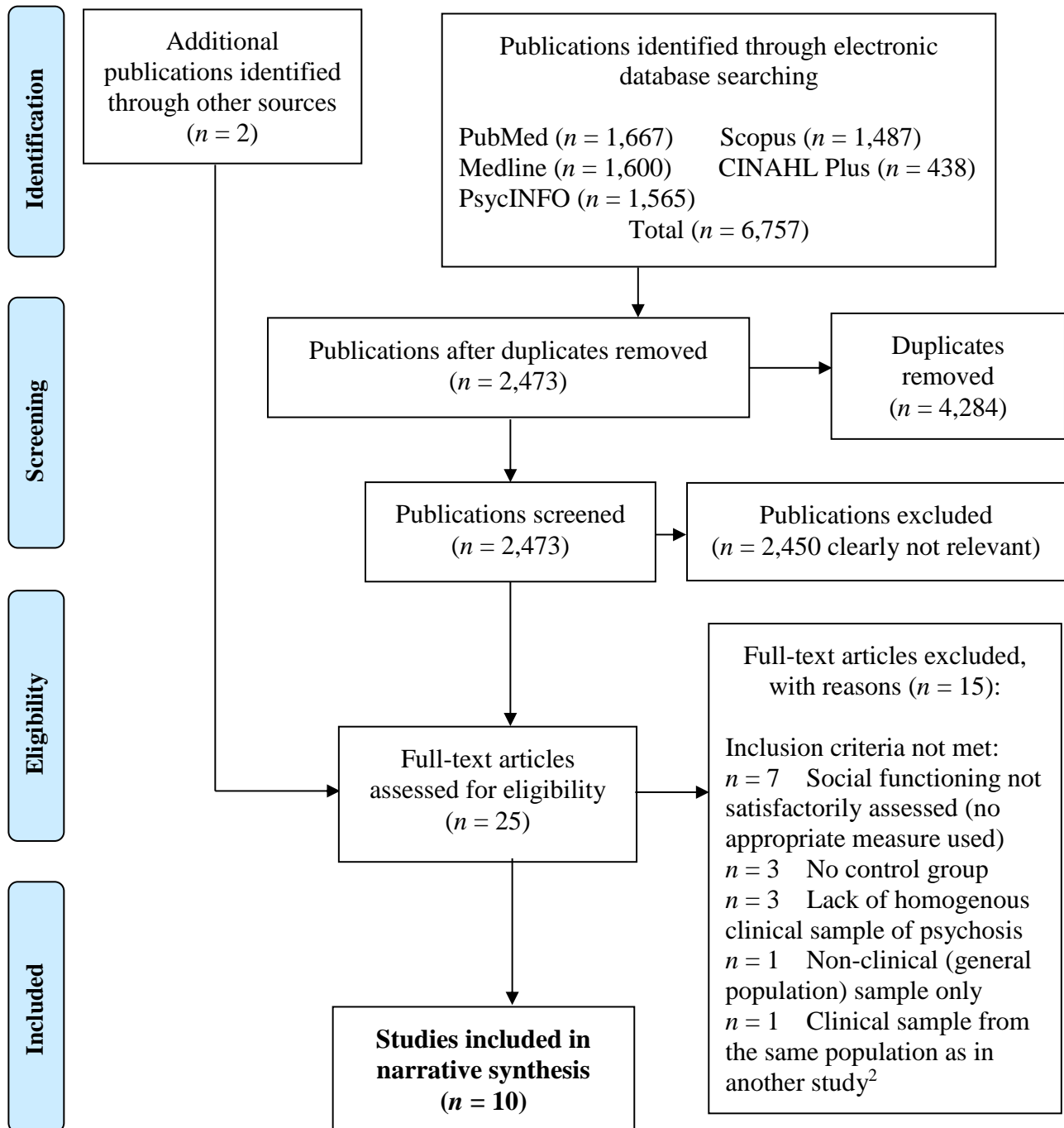


Figure 1. Flow chart of study selection (Moher et al., 2009).

<sup>2</sup> Two relevant studies (Alameda et al., 2015; Alameda et al., 2017) recruited from the same sample, thus the study with the higher total number of participants was only included in this review (i.e. Alameda et al., 2015).

### **Data Extraction and Analysis**

A specifically designed and piloted standardised form (Appendix B) was used for data extraction to gauge the following information from each study: author, year of publication, location, study design, exposure to childhood adversity, sample and control groups' characteristics, measurement tools, statistical analyses, primary and secondary findings. Effect sizes were extracted if reported in the studies, otherwise effect sizes were calculated using the data available. This step was conducted by S.H. and accuracy of information was cross-checked by C.H. There were no disagreements in the decisions made regarding data extraction and calculations of effect sizes.

### **Assessment of Methodological Quality**

Quality assessment of the studies was completed by the two authors (S.H. and C.H.) independently using a modified version of the Newcastle-Ottawa Quality Assessment Scale (NOS; Wells et al., 2014). See Appendix C for a copy of this scale. Minor discrepancies in the scoring were resolved by discussion and consensus. This scale assigns 0-10 stars based on four subscales: selection, comparability, exposure, and outcome assessment. A scoring system for the NOS has not yet been universally established (Wang et al., 2018). Studies with 0-3, 4-7, and 8-10 stars were rated as low, moderate, or high quality respectively. The results from the assessment of methodological quality indicated that four (40%) of the studies achieved 6-7 stars, and six (60%) of the studies achieved 8-10 stars in this review (Appendix D). This suggests that all the included studies achieved moderate to high methodological quality ratings respectively.



## Results

### Study Characteristics

The study characteristics of the 10 included studies are presented in Table 1. Four (40%) of the studies employed prospective cohort designs, while 6 (60%) employed cross-sectional. Three studies were conducted in Scandinavia, two in the USA, and one each in The Netherlands, UK, Switzerland, Australia, and South Africa. Six of the studies included a clinical control group, three of the studies included a non-clinical/healthy control group, and one study included both clinical and non-clinical/healthy control groups for comparison. The total numbers of participants recruited across the 10 studies were 955 (clinical sample), 1,006 (clinical controls), and 405 (non-clinical/healthy controls). Sample sizes ranged from 19 to 432 participants.

Exposure to childhood adversity was defined and measured in different ways across the studies. Five of the studies focused on all types of childhood trauma (Boyette et al., 2014; Kilian et al., 2017; Lysaker & Larocco, 2009; Palmier-Claus et al., 2016; Trauelsen et al., 2016) using either one or two different measures (Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998), Childhood Experience of Care and Abuse Questionnaire (CEQA-Q; Bifulco, Bernazzani, Moran, & Jacobs, 2005), and/or Trauma Assessment for Adults (TAA; Resnick, Best, Kilpatrick, Freedy, & Falsetti, 1993)). Two of the studies focused on interpersonal trauma (Haahr et al., 2018; Stain et al., 2014) using the Brief Betrayal Trauma Survey (BBTS; Goldberg & Freyd, 2006). Two of the studies focused on sexual and physical abuse (Alameda et al., 2015; Conus et al., 2010) using structured clinical interviews. One study focused on sexual trauma (Lysaker et al., 2001) using the Childhood Sexual Trauma Questionnaire (CSTQ; Levitan et al., 1998).

Table 1

*Study Characteristics*

Authors (Year)	Location	Study Design	Childhood Adversity Exposure	Sample Group(s) Characteristics (exposure)	Control Group(s) Characteristics (no exposure)	Psychosis Measure(s)	Childhood Adversity Measure(s)	Social Functioning Measure(s)
Alameda et al. (2015)	Switzerland	Prospective cohort	Sexual and/or physical abuse (SPA)	Early psychosis $n = 41$ Male $n = 26$ (63.41%) Age = 24.76 (0.7)	Early psychosis $n = 169$ Male $n = 124$ (74.7%) Age = 23.63 (0.36)	Clinical interview CAARMS	Structured clinical interview	<i>Premorbid:</i> PAS <i>Current:</i> SOFAS
Boyette et al. (2014)	Amsterdam, Netherlands	Prospective cohort	All trauma (abuse and/or neglect)	Chronic psychosis $n = 112$ Male $n = 89$ (79.46%) Age = 31.2 (7.9)	Chronic psychosis $n = 83$ Male $n = 69$ (83.13%) Age = 29.4 (6.3) <hr/> Healthy controls $n = 132$ Male $n = 73$ (55.3%) Age = 29.2 (9.2)	PANSS CASH	CTQ-SF	<i>Premorbid:</i> None <i>Current:</i> SFS
Conus, Cotton, Schimmelmann, McGorry, & Lambert (2010)	Melbourne, Australia	Prospective cohort	Sexual and/or physical abuse (SPA)	First-episode psychosis $n = 226$ Male $n = 117$ (51.8%) Age = 22.2 (3.6)	First-episode psychosis $n = 432$ Male $n = 315$ (72.9%) Age = 22 (3.3)	SCID-I	Structured clinical interview	<i>Premorbid:</i> PAS <i>Current:</i> MLCI
Haahr et al. (2018)	Scandinavia	Prospective cohort	Interpersonal trauma only	First-episode psychosis $n = 55$ Age = 27.8 (9.0) Sex $n$ not stated	First-episode psychosis $n = 136$ Age = 28 (9.7) Sex $n$ not stated	SCID-I PANSS	BBTS interview, CECA.Q, CTQ	<i>Premorbid:</i> PAS <i>Current:</i> SCS
Kilian et al. (2017)	Cape Town, South Africa	Cross-sectional	All trauma (abuse and/or neglect)	First-episode psychosis $n = 77$ Male $n = 56$ (72.7%) Age = 24.7 (7.2)	Healthy controls $n = 52$ Male $n = 35$ (67.3%) Age = 25.1 (6.8)	SCID-I	CTQ-SF	<i>Premorbid:</i> PAS <i>Current:</i> None
Lysaker & Larocco (2009)	Indiana, USA	Cross-sectional	Sexual abuse, physical assault, and/or harm to others	Chronic psychosis $n = 182$ Age $n$ not stated for individual groups	Chronic psychosis $n = 20$ Sex $n$ not stated for individual groups	SCID-I	TAA	<i>Premorbid:</i> None <i>Current:</i> SF-36

Lysaker, Meyer, Evans, Clements, & Marks (2001)	Indiana, USA	Cross-sectional	Sexual trauma only	Chronic psychosis <i>n</i> = 19 Age <i>n</i> not stated for individual groups	Chronic psychosis <i>n</i> = 35 Sex <i>n</i> not stated for individual groups	SCID-I	CSTQ	<i>Premorbid:</i> None <i>Current:</i> QLS
Palmier-Claus et al. (2016)	Manchester, UK	Cross-sectional	All trauma (abuse and/or neglect)	First-episode psychosis <i>n</i> = 20 Male <i>n</i> = 16 (80%) Age = 24.6 (5.2) <hr/> Chronic psychosis <i>n</i> = 20 Male <i>n</i> = 13 (65%) Age = 39.6 (8.9)	Healthy controls <i>n</i> = 120 Male <i>n</i> = 35 (29.2%) Age = 20.1 (2.5)	PANSS	CTQ	<i>Premorbid:</i> None <i>Current:</i> PSP
Stain et al. (2014)	Norway	Cross-sectional	Interpersonal trauma only	First-episode psychosis <i>n</i> = 102 Male <i>n</i> = 57 (55.9%) Age = 26.7 (10.4)	First-episode psychosis <i>n</i> = 131 Male <i>n</i> = 77 (58.8%) Age = 26 (9.7)	SCID-I PANSS	BBTS	<i>Premorbid:</i> PAS <i>Current:</i> QOLI, SCS
Trauelsén et al. (2016)	Denmark	Cross-sectional case-control	All trauma (abuse and/or neglect)	First-episode psychosis <i>n</i> = 101 Male <i>n</i> = 75 (74.26%) Age = 22.5 median	Healthy controls <i>n</i> = 101 Male <i>n</i> = 75 (74.26%) Age = 22 median	PANSS	CTQ, CECA.Q	<i>Premorbid:</i> PAS <i>Current:</i> QOLI

*Notes.* Age = Mean (SD); BBTS = Brief Betrayal Trauma Survey (Goldberg & Freyd, 2006); CAARMS = Comprehensive Assessment of At Risk Mental States (Yung et al., 2005); CASH = Comprehensive Assessment of Symptoms and History (Andreasen, Flaum, & Arndt, 1992); CECA.Q = Childhood Experience of Care and Abuse Questionnaire (Bifulco, Bernazzani, Moran, & Jacobs, 2005); CSTQ = Childhood Sexual Trauma Questionnaire (Levitan et al., 1998); CTQ = Childhood Trauma Questionnaire (Bernstein & Fink, 1998); MLCI = Modified Location Code Index (Tohen et al., 2000); PAS = Premorbid Adjustment Scale (Cannon-Spoor, Potkin, & Wyatt, 1982); PSP = Personal and Social Performance Scale (Morosini, Magliano, Brambilla, Ugolini, & Pioli, 2000); QLS = Quality of Life scale (Heinrichs, Hanlon, & Carpenter, 1984); QOLI = Lehman Quality of Life Interview (Lehman, 1988); SCID = Structured Clinical Interview for DSM-IV (First, Spitzer, Gibbon, & Williams, 2002); SCS = Strauss-Carpenter Outcome Scale (Strauss & Carpenter, 1972); SF-36 = 36-Item Short Form Health Survey (Ware & Sherbourne, 1992); SFS = Social Functioning Scale (Birchwood, Smith, Cochrane, Wetton, & Copestak, 1990); SOFAS = Social and Occupational Functioning Assessment Scale (American Psychiatric Association, 2000); PANSS = Positive and Negative Syndrome Scale (Kay, Fiszbein, & Opler, 1987); TAA = Trauma Assessment for Adults (Resnick, Best, Kilpatrick, Freedy, & Falsetti, 1993).

Table 2

*Main Findings of the Included Studies*

Authors (Year)	Exposure to Childhood Adversity	Comparison / Control Group	Social Functioning (SF) Variable	Statistical Analyses	Effect Size	Control Variables	Secondary Findings
Alameda et al. (2015)	Sexual and/or physical abuse (SPA)	No SPA	Overall premorbid SF Premorbid childhood SF Premorbid early adolescence SF Current SF at follow-ups	$\beta = .12^{***}; d = .60$ $\beta = .1^{**}; d = .53$ $\beta = .12^{***}; d = .56$ $\beta = -.4.13^*; d = -.35$	Medium Medium Medium Small	Age, sex, socioeconomic status, substance abuse, treatment adherence	The mediating effect of age the time of exposure in this phenomenon.
Boyette et al. (2014)	All trauma	No trauma	Current QoL social domain Overall current SF Current social withdrawal	$F = 9.73^{**}; \eta^2 = .05$ $F = 3.14; \eta^2 = .02$ $F = 4.65^*; \eta^2 = .03$	Small Small Small	Personality traits, positive and negative symptom levels	Personality traits mediate the relation between traumatic experiences, QoL, and social withdrawal.
Conus, Cotton, Schimmelmann, McGorry, & Lambert (2010)	SPA Physical abuse SPA	No SPA	Premorbid SF Premorbid SF Living with family at present	$t(653) = 5.66^{***}; d = .47$ $t(548) = -4.86^{***}; d = -.39$ $X^2 = 19.12^{***}; d = .58$	Small Small Medium	Length of time in service, global functioning, DUP, substance abuse	
Haahr et al. (2018)	Interpersonal trauma	No trauma	Premorbid childhood SF Premorbid late adolescence SF Meeting friends last year	$t(186) = .54; d = .09$ $t(186) = -2.55^*; d = -.41$ $t(183) = -1.85; d = -.30$	- Small Small	Age, education, substance abuse, DUP, psychosis symptoms	
Kilian et al. (2017)	All trauma  Sexual abuse  Physical neglect	No trauma (HC)	Overall premorbid functioning Premorbid early adolescence SF Premorbid late adolescence SF Premorbid early adolescence SF Premorbid late adolescence SF Premorbid early adolescence SF	$r = .38^{***}$ $r = .24^*$ $r = .29^*$ $r = .28^*$ $r = .35^{**}$ $r = .29^*$	Medium Small Small Small Medium Small	Neurological problems, obstetric complications, substance abuse	No significant correlations between emotional neglect and premorbid SF, & all trauma and premorbid childhood SF.
Lysaker & Larocco, (2009)	Sexual trauma Physical trauma Harm to others	No trauma	Current SF  Numbers of trauma and SF	$F(12,89) = .41; d = .13$ $F(12,89) = 3.08; d = .35$ $F(12,89) = 7.07^{**}; d = .53$ $rs = .22^*$	- Small Medium Small	Age, education, number of lifetime hospitalisations, diagnosis	Sexual trauma group were more likely to have schizoaffective disorder than those without sexual trauma.
Lysaker, Meyer, Evans, Clements, & Marks (2001)	Sexual trauma	No trauma	QLS intrapsychic foundations Current interpersonal relations Current instrumental role	$F(1,52) = 4.25^*; d = .59$ ns. $F(1,52) = 4.37^*; d = .60$	Medium  Medium	Age, sex, education, psychiatric hospitalisations, diagnosis, race, personality traits	Sexual trauma group had significantly higher scores on the neuroticism scale.

Palmier-Claus et al. (2016)	All trauma	No trauma (HC)	Compared groups on current SF  Current SF	$H(3) = 88.07$ (HC > chronic, FEP) $\beta = .17$ , SE: .07*	NC  NC	Age, sex, clinical status, attachment, theory of mind, depression	Depression mediated the relationship between childhood adversity and SF $\beta = -.24$ , SE: .07**
Stain et al. (2014)	Interpersonal trauma	No trauma	Premorbid childhood SF Premorbid early adolescence SF Premorbid late adolescence SF Current satisfaction with family relations	$p = .006^{**}$ ; $d = .17$ $p = .024^{*}$ ; $d = .14$ $p = .020^{*}$ ; $d = -.67$ $p = .016^{*}$ ; $d = -.36$	- - Medium  Small	Age, sex, depression, adulthood trauma	Age, depression, and childhood trauma were significant independent predictors of satisfaction with relationships. $\beta = -.176^{*}$ Adulthood trauma did not moderate this effect.
Trauelsen et al. (2016)	All trauma	No trauma (HC)	Premorbid SF change Adult support in childhood Peer support in childhood Current independent living Number of adversities and perceived peer support Number of adversities and face-to-face family contact	$F(2,77) = 1.460$ ; $\eta^2 = .20$ $X^2 = 20.45^{***}$ ; $d = .70$ $X^2 = 47.98^{***}$ ; $d = 1.15$ $X^2 = 30.49^{***}$ ; $d = .84$  $rs = -.30^{**}$ ; OR = .12**  $rs(97) = -.23^{*}$	Large Medium Large Large  Medium  Small	Age, sex, first-degree psychiatric disorder, highest parental education	Lack of perceived peer support during childhood and adolescence increased the risk of psychosis independent of childhood adversities.

Notes. \* =  $p < .05$ ; \*\* =  $p < .01$ ; \*\*\* =  $p < .001$ ; ns. = not statistically significant;  $\beta$  = standardised regression coefficient;  $d$  = Cohen's  $d$  (Cohen, 1992) effect sizes calculated from study data;  $F$  = F-test statistic; OR = odds ratio;  $\eta^2$  = partial ETA squared;  $r$  = correlation coefficient;  $rs$  = spearman rank correlation coefficient; SE = standard error;  $t$  = t-test statistic;  $X^2$  = chi-squared test. DUP = duration of untreated psychosis; FEP = first-episode psychosis group; HC = healthy controls; NC = not calculated; QLS = Quality of Life scale (Heinrichs, Hanlon, & Carpenter, 1984); QoL = quality of life; SF = social functioning; SPA = sexual and/or physical abuse.

In relation to the measurement of social functioning, six studies assessed premorbid social functioning using the Premorbid Adjustment Scale (PAS; Cannon-Spoor, Potkin, & Wyatt, 1982), while nine studies assessed current social functioning using either one or two different measures (Social and Occupational Functioning Assessment Scale (SOFAS; American Psychiatric Association, 2000), Social Functioning Scale (SFS; Birchwood, Smith, Cochrane, Wetton, & Copestak, 1990), Strauss-Carpenter Outcome Scale (SCS; Strauss & Carpenter, 1972), 36-Item Short Form Health Survey (SF-36; Ware & Sherbourne, 1992), Quality of Life scale (QLS; Heinrichs, Hanlon, & Carpenter, 1984), Personal and Social Performance Scale (PSP; Morosini, Magliano, Brambilla, Ugolini, & Pioli, 2000), Lehman Quality of Life Interview (QOLI; Lehman, 1988), and/or Modified Location Code Index (MLCI; Tohen et al., 2000)).

Nine of the studies utilised the Structured Clinical Interview for DSM-IV (SCID-I; First, Spitzer, Gibbon, & Williams, 2002) and/or Positive and Negative Syndrome Scale (PANSS; Kay, Fiszbein, & Opler, 1987) for diagnostic and screening of psychotic disorders. One study (Alameda et al., 2015) utilised a clinical interview and the Comprehensive Assessment of At Risk Mental States (CAARMS; Yung et al., 2005) scale for diagnostic and screening of psychosis. Due to the diversity of definitions and measures of childhood adversity and social functioning, accumulation of effect sizes would be limited by high heterogeneity and low precision (Scammacca, Roberts, & Stuebing, 2014). Therefore, the results for this review were synthesised narratively rather than quantitatively.

### **Summary of Main Findings**

The main findings are summarised in Table 2. All studies reported some significant association between exposure to childhood adversity and poor social functioning of people with experiences of psychosis, compared to people without exposure to childhood adversity

(clinical or non-clinical/healthy controls). Effect sizes ranged from small ( $d = .14$ ) to large ( $d = 1.15$ ). The studies were grouped into three (not mutually-exclusive) categories. These included studies that explored: overall childhood adversity and premorbid social functioning in early psychosis ( $k = 6$ ); overall childhood adversity and current social functioning in early and chronic psychosis ( $k = 9$ ); and possible risk factors that mediate or moderate the relationship between childhood adversity and social functioning in psychosis ( $k = 5$ ). For the purposes of this review, early psychosis also refers to first-episode psychosis samples.

### **Overall childhood adversity and premorbid social functioning in early psychosis.**

Six studies considered comparing the early psychosis sample (with exposure to childhood adversity) and control groups (clinical and non-clinical/healthy controls with no exposure to childhood adversity) on premorbid social functioning (Alameda et al., 2015; Conus et al., 2010; Haahr et al., 2018; Kilian et al., 2017; Stain et al., 2014; Trauelsen et al., 2016). Three of the studies found a significant association, where childhood adversity was negatively correlated with overall premorbid social functioning before the age of 16 years (Alameda et al., 2015; Conus et al., 2010; Kilian et al., 2017). In relation to childhood adversity and the impairment of social functioning during adolescence, four studies found a significant difference between the sample and control groups (Alameda et al., 2015; Haahr et al., 2018; Kilian et al., 2017; Stain et al., 2014). However, effect sizes were in the small to medium range, suggesting that other factors may also contribute to the impaired social functioning during adolescence.

In contrast, the studies revealed mixed findings regarding the childhood social functioning of people with early psychosis. Both Alameda et al. (2015) and Stain et al. (2014) demonstrated a significant association between exposure to severe early trauma and poorer social functioning in childhood, compared to clinical controls. Another study found

that the clinical sample reported significantly lower rates of perceived social support during childhood than healthy controls (Trauelsen et al., 2016). However, these significant findings were not reflected in Haahr et al.'s (2018) study. Likewise, Kilian et al.'s (2017) study did not show any significant correlations between childhood adversities and childhood premorbid social functioning, with correlations ranging from  $r = .08$  to  $r = .16$ . These opposing findings may relate to low statistical power and the limitations of testing mediational effects in cross-sectional data, where direction of effect cannot be established.

Two studies showed evidence for a specific rather than general association between childhood adversity and premorbid social functioning. Conus et al. (2010) found significant associations between physical abuse and poor premorbid social functioning, while Kilian et al. (2017) found significant associations between physical neglect and impaired social functioning during early adolescence only. Interestingly, the latter study also found no significant correlations between emotional neglect and poor premorbid social functioning. The results suggest that exposure to sexual, physical, and/or interpersonal trauma could be significantly related to later impaired social functioning (especially during adolescence) among some people with early psychosis, in comparison to clinical and healthy control groups without adverse childhood experiences. This small to medium, but significant effect seemed to be long-lasting and stable overtime (Alameda et al., 2015; Trauelsen et al., 2016). Nevertheless, the cross-sectional nature of these studies limit inferences about the temporal sequence of childhood adversity and premorbid levels of social functioning in early psychosis (Carlson & Morrison, 2009).

### **Overall childhood adversity and current (adult) social functioning in psychosis.**

Nine studies considered comparing the clinical samples (with exposure to childhood adversity) and control groups (clinical and non-clinical/healthy controls with no exposure to



childhood adversity) on different measures of childhood adversity and current levels of social functioning. In relation to early psychosis samples, two of the studies found that exposure to childhood adversity significantly predicted poorer current social functioning (Alameda et al., 2015; Palmier-Claus et al., 2016), with associations ranging from  $\beta = .17$  to  $\beta = 4.13$ . The prospective study observed significant differences between the exposure (to early sexual and/or physical abuse) and non-exposure clinical groups regarding current social functioning over three-years (Alameda et al., 2015), indicating long-lasting social impairment. Childhood adversity remained a significant predictor of later impaired social functioning when controlling for covariates, including depression (Palmier-Claus et al., 2016).

Four studies explored specific domains within adult social functioning among their early psychosis sample and control groups. Three of the studies found that childhood trauma was significantly associated with less current satisfaction with family relationships (Stain et al., 2014), less current face-to-face contact with family (Trauelsen et al., 2016), and less likely to live with family (Conus et al., 2010), compared to clinical and healthy controls. Trauelsen et al. (2016) showed a large effect of childhood adversity on independent living status between the first-episode psychosis sample and healthy controls. A strength of this study was the matched case-control design, which balanced any potential confounds. In terms of meeting friends and relationships, however, two of the studies did not find significant differences between the clinical groups with- or without- early exposure to close interpersonal trauma (Haahr et al., 2018; Stain et al., 2014). Although, both studies suffered high refusal rates from participants, indicating that the samples were less likely to be representative of the clinical population.

In relation to chronic psychosis samples, three studies revealed mixed findings regarding the associations between childhood adversity and current social functioning, compared to clinical controls (Boyette et al., 2014; Lysaker et al., 2001; Lysaker & Larocco,

2009). Lysaker et al.'s (2001) study indicated that in comparison to the non-exposure to sexual trauma group, the chronic psychosis group had significantly lower scores for a current sense of purpose, empathy, rapport, and social roles (with a medium effect). Similarly, Boyette et al. (2014) found that this sample group showed significantly lower quality of life and more social withdrawal at present, compared with the clinical and healthy controls. However, both studies used a dichotomisation procedure to split the sample group into exposure and non-exposure groups, and then conducted multivariate tests. This resulted in smaller unequal sample sizes, questionable validity, and arguably may have led to misleading findings (Maccallum, Zhang, Preacher, & Rucker, 2002).

Nonetheless, another study showed that greater numbers of childhood adversity were significantly associated with poorer levels of social functioning in adulthood (Lysaker & Larocco, 2009). This indicates that the quantity of early traumatic events may be a putative mechanism between social functioning difficulties and chronic psychosis. This study was the only one that considered harm to others in childhood as an adverse experience, which was found to be significantly associated with poorer levels of current social functioning (with a medium effect), relative to the clinical control group (Lysaker & Larocco, 2009). No evidence, however, was found relating sexual and physical assault to impaired social functioning in the chronic psychosis sample. This also mirrors Lysaker et al.'s (2001) findings that scores for interpersonal and social functioning did not differ significantly between the sample and clinical control groups.

These results highlight some specificity regarding the non-significant relationship between early sexual and/or physical trauma and impaired social functioning among people with chronic psychosis. This may be explained by the characteristics of the participants in the clinical samples; it is recognised that the people who agree to participate in psychosis research tend to show less severe symptoms and distress, thus may not be representative of

the actual chronic psychosis population (Patel et al., 2017). In this review, the studies that recruited participants with chronic psychosis had relatively small sample sizes (e.g., Lysaker et al., 2001); it is possible that the heterogeneity in results may be in part due to this, although limited sample sizes are reflective of chronic psychosis research in general. Nevertheless, larger samples would have provided more power to detect smaller, subtler, and more complex interactional effects (Lin, Lucas, & Shmueli, 2013).

**Possible risk factors that mediate or moderate the relationship between childhood adversity and social functioning in psychosis.**

Five studies explored the potential risk factors that either mediate or moderate the relationship between childhood adversity and impaired social functioning in their clinical sample and (clinical and/or healthy) control groups (Alameda et al., 2015; Boyette et al., 2014; Kilian et al., 2017; Palmier-Claus et al., 2016; Stain et al., 2014). Collectively, three of the studies demonstrated that when investigating each pathway separately; depression, personality traits (higher neuroticism and lower extraversion, agreeableness, and conscientiousness), paranoia, anxious attachment, and age at the time of exposure (younger age) significantly mediated the effect of childhood adversity on social functioning in psychosis samples (Alameda et al., 2015; Boyette et al., 2014; Palmier-Claus et al., 2016). One study concluded that depression may be a common mechanism across the continuum of psychosis (Palmier-Claus et al., 2016).

In contrast, two of the studies showed that individual factors of adult experiences of interpersonal trauma, family history of psychosis, and family history of psychiatric disorders, did not significantly moderate the relationship between childhood adversity and poor premorbid social functioning in first-episode psychosis samples (Kilian et al., 2017; Stain et al., 2014). A strength of the latter study was the adjustment of the alpha-level, to control for

the risk of inflation of Type I errors associated with multiple testing (Veazie, 2006). Kilian et al.'s (2017) study also suggested that obstetric complications and substance abuse may operate via an alternative pathway to psychosis, not involving childhood adversity. These findings indicate that genetic predisposition and environmental risk factors weaken the strength of the association between childhood adversity and premorbid social functioning.

Overall, the 10 studies included in this review involved retrospective recall of childhood adversity, which may have led to self-report bias (Hardt & Rutter, 2004), though recent evidence has asserted that prospective and retrospective reports yield similar rates of adversity (Newbury et al., 2018).

### **Discussion**

This review synthesises literature exploring the relationship between childhood adversity and social functioning of adults with experiences of psychosis. Narrative synthesis of the 10 studies indicated that, in general, childhood adversity was negatively associated with social functioning in early and chronic psychosis samples, in comparison to clinical and healthy control groups without exposure to childhood adversity. The findings suggest that adverse childhood experiences and impaired social functioning may play a critical role in the development and maintenance of clinical levels of psychosis. This is consistent with the methodologically robust literature on the relationship between childhood adversity and the increased risk of developing psychosis (Bailey et al., 2018; Coughlan & Cannon, 2017; Mansueto & Faravelli, 2017), as well as the evidence for the association between childhood adversity and poor social functioning (e.g., Hughes et al., 2017) in first-episode psychosis population (e.g., Daglas et al., 2014). Due to the narrative synthesis of the results, it was not possible to firmly support or refute the hypothesis of this review without further research.

The findings of the impact of childhood adversity on social functioning in psychosis became less consistent when different assessments were used to measure different domains of childhood adversity and social functioning, as well as when different clinical sample groups were involved. The studies that used one measure (PAS; Cannon-Spoor et al., 1982) to assess for premorbid levels of social functioning in early psychosis samples, indicated that childhood adversity was negatively associated with overall premorbid social functioning, with a medium effect size. However, this effect reduced when findings differed in relation to the specific age period of premorbid social functioning. For example, the results showed a negative association between early adversity (sexual abuse and physical neglect) and premorbid social functioning during early and late adolescence. Conversely, there was no or little association between early adversity and premorbid social functioning during childhood in the studies included in this review.

This contrasts with other literature that has asserted social functioning impairments throughout childhood and adolescence in psychosis (e.g., Kelleher et al., 2013). These findings could perhaps reflect that adolescence is a time characterised by transitions to more complex social interactions, such as forming and maintaining relationships outside their family (Santrock, 2001), thus more vulnerable to the impact of interpersonal trauma on social functioning. Furthermore, epidemiology studies have indicated higher rates of exposure to trauma between the ages of 12 and 17 years, than other age groups (Saunders & Adams, 2014). This suggests a possible link between adverse adolescent experiences and impaired social functioning during adolescence, supporting the findings by Alameda et al. (2015).

In disparity to the above, the studies that assessed for adult social functioning used more than one different measure (e.g., SCS; Strauss & Carpenter, 1972). These findings indicated that exposure to early adversity predicted poorer current levels of social functioning of people with early psychosis, compared to the clinical and healthy controls. This supports

existing literature on the relationship between childhood adversity and impaired social functioning in adulthood (Boyda & McFeeters, 2015; Kraan et al., 2017). However, the measures assessed different domains of current social functioning, thus the studies are not comparable and individual findings should be interpreted on its own merit. The studies did, however, use validated measures and reported adequate psychometric properties (e.g., Stain et al., 2014).

Prospective cohort studies showed a long-lasting social functioning impairment across the course of the psychotic experience, in line with the existing literature (Hughes et al., 2017; Velthorst et al., 2016). This indicates long-term negative effects of childhood adversity on social functioning in people with early psychosis. However, the prospective studies suffered high dropout rates at follow-up time points. It is possible that there were observable differences in the demographics (and outcomes) between the people who remained or dropped out of study participation (Fewtrell et al., 2008).

In contrast, the review of the 10 studies showed that there was no evidence for the association between sexual and physical trauma, and current levels of social functioning among the chronic psychosis samples, compared to the clinical and healthy controls. Considering the results so far, this suggests that either social functioning impairments diminish over the course of the psychotic experience or maybe there were no social functioning difficulties to begin with within these samples. Indeed, Alameda et al. (2015) found that exposure to adversity at a later age was associated with improvement in social functioning, following treatment. Another possible explanation is that trauma may affect the quality but not the quantity of interpersonal relationships in the chronic psychosis population (Lysaker et al., 2001). Despite this, owing to the small sample sizes in these particular studies, the conclusions that can be drawn are limited.

This review also indicated that the number of adverse childhood experiences was positively correlated with impaired social functioning in adulthood among people with chronic psychosis (Lysaker & Larocco, 2009). This finding is consistent with the existing notion that multiple and prolonged exposures to early adversity may intensify the risk of developing psychosis (Alink et al., 2012; Longden et al., 2016). An accumulation of trauma has been linked to feelings of helplessness (Van der Kolk, 2000), depression (McCutcheon et al., 2009), and disrupted attachment (Read & Gumley, 2010). Such psychological mechanisms are likely to contribute to poorer social functioning throughout the life span, because maladaptive patterns of relating to self and others are maintained (Ryle & Kerr, 2002).

Interestingly, this review showed a specific difference between interpersonal relationships with family members and friendships/partners. The studies indicated that childhood adversity was negatively associated with current satisfaction, face-to-face contact, and living with family relations in the early psychosis samples, in comparison to the healthy controls. Conversely, other studies showed no differences between the two groups in relation to meeting with friends and maintaining relationships. These findings could perhaps be explained by exposure to interpersonal trauma from a family member, disruption of attachment bonds, and high expressed emotion (Peris & Miklowitz, 2015), leading to family disownment. Nevertheless, these findings corroborate existing literature on the relationship between childhood adversity and low family satisfaction/perceived social support (e.g., Hughes et al., 2017). These studies support further research suggestions to conceptualise and better understand psychosis in terms of relational experiences and interpersonal processes.

In terms of the chronic psychosis samples, the specific findings indicated that childhood adversity was negatively associated with scores on items that assessed a sense of purpose, empathy, rapport, social roles, and quality of life, consistent with other literature

(e.g., Hughes et al., 2017). These findings support trauma and relational-based models of understanding the aetiology of psychosis (e.g., Mellacqua, 2014). The current evidence suggests that a poor sense of self, shame, elevated stress sensitivity, and subjective experiences of outsider status may also underlie the association between childhood trauma and psychosis (Reininghaus et al., 2016). The studies included in this review, however, were largely cross-sectional, limiting inferences about the temporal sequence of the association between childhood adversity and psychosis (Carlson & Morrison, 2009). Further research in this area will irradiate the role of social functioning in psychosis to greater effect, particularly to explore the link between different types of adverse childhood experiences and the different psychotic presentations (e.g., paranoia), and how they relate to social functioning.

The possibility of this effect is supported by prospective studies that tested mediational models involving childhood adversity and social functioning in psychosis. Due to the paucity of literature in this area, this review did not primarily aim to synthesise all the findings on the probable mediators and moderators associated with these variables. The findings have somewhat indicated that depression, neuroticism, paranoia, anxious insecure attachment, and young age at the time of exposure may individually mediate the effect of childhood adversity on social functioning in psychosis. These preliminary findings are in line with other studies (e.g., Fisher et al., 2013; Piltan et al., 2016). Future research would benefit from further longitudinal designs, especially those designed to test the common mechanisms underlying childhood adversity and social functioning in psychosis.

## **Limitations**

The outcome of this review should be understood in the context of its own limitations. Meta-analysis was inappropriate as different measures and samples were utilised which meant the results were heterogeneous, but this also limited firm conclusions based on the



findings. The studies that only used the Global Assessment of Functioning (GAF; American Psychiatric Association, 2000) scale to examine current levels of social functioning were not included, because this scale only measured global psychosocial functioning (Aas, 2010). However, this meant that several studies were excluded from this review, which may have altered the results and conclusions. The studies selected were limited to peer-reviewed papers published in the English Language, as well as excluded thesis/dissertations and grey literature. This process could have omitted several relevant studies from other languages, cultures, and settings. A further limitation of this review is that the included studies used different clinical samples which will have likely presented with different psychotic experiences (e.g., some participants experiencing voice hearing, while others experiencing delusions primarily). This means that the conclusions drawn from this review should be interpreted with some caution.

### **Clinical Implications**

The findings of this review suggest that children who have been maltreated may present with social functioning problems in early and/or late adolescence, which may persist into adulthood. This highlights the importance of early intervention in psychosis, because by introducing treatment early and prior to the emergence of clinical levels of psychosis, long-term social wellbeing could be sustained. Adolescence is also the critical developmental period during which interpersonal skills crystallise (Jaworska & MacQueen, 2015).

Consistent with existing trauma, relational, and attachment-based models (e.g., Read, Perry, Moskowitz, & Connolly, 2001), by improving the underlying psychosocial vulnerability may potentially diminish the risk for developing poor social functioning and psychosis. Ecological momentary interventions that directly target underlying psychosocial

mechanisms may help to promote resilience coping, prevent the onset of clinical levels of psychosis, and lessen the intensity of associated distress (Reininghaus et al., 2016).

In accordance with results, clinicians ought to consider early interpersonal traumatic experiences and history of social functioning impairments as likely precursors of psychosis, when engaging in assessment, formulation, and intervention with service users. Relational-based interventions may be effective for younger people and adults to overcome unprocessed trauma, insecure attachment, and maladaptive relational patterns (e.g., Kerr, Birkett, & Chanen, 2003). Overall, more research in this area is warranted, not only to better make sense of the processes involved and direction of causality between childhood adversity and social functioning impairments in psychosis, but also to target psychological interventions to this complex issue. Researchers ought to consider engaging and reaching out to acute and chronic psychosis populations, who may refuse or dropout to limit social contact.

## **Conclusions**

This is the first review of the literature exploring the associations between adverse childhood experiences and social functioning of adults with clinical levels of psychosis, in comparison to clinical and/or healthy control groups without adverse childhood experiences. It provides initial review evidence that exposure to childhood adversity can be significantly associated with premorbid social functioning impairments during adolescence, which may persist into adulthood for some people with experiences of psychosis. There is a need to better understand the interplay of mechanisms that underlie this relationship through further robust, homogeneous, and longitudinal studies. This review highlights the relational nature of the development of psychotic experiences and supports future research suggestions to conceptualise psychosis in terms of interpersonal processes.

### References

- Aas, I. M. (2010). Global assessment of functioning (GAF): Properties and frontier of current knowledge. *Annals of General Psychiatry*, 9, 20. <https://doi.org/10.1186/1744-859X-9-20>
- Alameda, L., Ferrari, C., Baumann, P. S., Gholam-Rezaee, M., Do, K. Q., & Conus, P. (2015). Childhood sexual and physical abuse: Age at exposure modulates impact on functional outcome in early psychosis patients. *Psychological Medicine*, 45(13), 2727-2736. <https://doi.org/10.1017/S0033291715000690>
- Alameda, L., Golay, P., Baumann, P. S., Progin, P., Mebdouhi, N., Elowe, J., ... Conus, P. (2017). Mild depressive symptoms mediate the impact of childhood trauma on long-term functional outcome in early psychosis patients. *Schizophrenia Bulletin*, 43(5), 1027-1035. <https://doi.org/10.1093/schbul/sbw163>
- Alink, L. R. A., Cicchetti, D., Kim, J., & Rogosch, F. A. (2012). Longitudinal associations among child maltreatment, social functioning, and cortisol regulation. *Developmental Psychology*, 48, 224-236.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4<sup>th</sup> ed., Rev.). Washington, DC: Author.
- American Psychological Association. (2010). *Publication manual of the American psychological association* (6<sup>th</sup> ed.). Washington, DC: Author.
- Andreasen, N. C., Flaum, M., & Arndt, S. (1992). The comprehensive assessment of symptoms and history (CASH): An instrument for assessing diagnosis and psychopathology. *Archives of General Psychiatry*, 49, 615-623.
- Bailey, T., Alvarez-Jimenez, M., Garcia-Sanchez, A. M., Hulbert, C., Barlow, E., & Bendall, S. (2018). Childhood trauma is associated with severity of hallucinations and

delusions in psychotic disorders: A systematic review and meta-analysis.

*Schizophrenia Bulletin*, sbx161. <https://doi.org/10.1093/schbul/sbx161>

Bernstein, D. P., & Fink, L. (1998). *Childhood trauma questionnaire: A retrospective self-report manual*. San Antonio, TX: The Psychological Corporation.

Bernstein, D. P., Fink, L., Handelsman, L., Foote, J., Lovejoy, M., Wenzel, K., ... Ruggiero, J. (1994). Initial reliability and validity of a new retrospective measure of child abuse and neglect. *American Journal of Psychiatry*, 151(8), 1132-1136.  
<https://doi.org/10.1176/ajp.151.8.1132>

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., ... Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse and Neglect*, 27(2), 169-190.  
[https://doi.org/10.1016/S0145-2134\(02\)00541-0](https://doi.org/10.1016/S0145-2134(02)00541-0)

Bifulco, A., Bernazzani, O., Moran, P. M., & Jacobs, C. (2005). The childhood experience of care and abuse questionnaire (CECA.Q): Validation in a community series. *British Journal of Clinical Psychology*, 44(4), 563-581.  
<https://doi.org/10.1348/014466505X35344>

Birchwood, M., Smith, J., Cochrane, R., Wetton, S., & Copestake, S. (1990). The social functioning scale: The development and validation of a new scale of social adjustment for use in family intervention programmes with schizophrenic patients. *British Journal of Psychiatry*, 157, 853-859.

Boyda, D., & McFeeters, D. (2015). Childhood maltreatment and social functioning in adults with sub-clinical psychosis. *Psychiatry Research*, 226(1), 376-382.  
<https://doi.org/10.1016/j.psychres.2015.01.023>

Boyette, L.-L., van Dam, D., Meijer, C., Velthorst, E., Cahn, W., de Haan, L., ... Myin-Germeys, I. (2014). Personality compensates for impaired quality of life and social

- functioning in patients with psychotic disorders who experienced traumatic events. *Schizophrenia Bulletin*, 40(6), 1356-1365. <https://doi.org/10.1093/schbul/sbu057>
- Cannon-Spoor, H. E., Potkin, S. G., & Wyatt, R. J. (1982). Measurement of premorbid adjustment in chronic schizophrenia. *Schizophrenia Bulletin*, 8(3), 470-484. <https://doi.org/10.1093/schbul/8.3.470>
- Carlson, M. D. A., & Morrison, R. S. (2009). Study design, precision, and validity in observational studies. *Journal of Palliative Medicine*, 12(1), 77-82. <https://doi.org/10.1089/jpm.2008.9690>
- Centre for Reviews and Dissemination. (2009). *NHS economic evaluation database*. York: Centre for Reviews and Dissemination.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/19565683>
- Conus, P., Cotton, S., Schimmelmann, B. G., McGorry, P. D., & Lambert, M. (2010). Pre-treatment and outcome correlates of sexual and physical trauma in an epidemiological cohort of first-episode psychosis patients. *Schizophrenia Bulletin*, 36(6), 1105-1114. <https://doi.org/10.1093/schbul/sbp009>
- Cornblatt, B. A., Carrión, R. E., Addington, J., Seidman, L., Walker, E. F., Cannon, T. D., ... Lencz, T. (2012). Risk factors for psychosis: Impaired social and role functioning. *Schizophrenia Bulletin*, 38(6), 1247-1257. <https://doi.org/10.1093/schbul/sbr136>
- Cotter, J., Kaess, M., & Yung, A. R. (2015). Childhood trauma and functional disability in psychosis, bipolar disorder and borderline personality disorder: A review of the literature. *Irish Journal of Psychological Medicine*, 32(1), 21-30. <https://doi.org/10.1017/ipm.2014.74>

- Coughlan, H., & Cannon, M. (2017). Does childhood trauma play a role in the aetiology of psychosis? A review of recent evidence. *BJPsych Advances*, 23(5), 307-315.  
<https://doi.org/10.1192/apt.bp.116.015891>
- Couture, S. M., Penn, D. L., & Roberts, D. L. (2006). The functional significance of social cognition in schizophrenia: A review. *Schizophrenia Bulletin*, 32(Suppl. 1), S44-S63.  
<https://doi.org/10.1093/schbul/sbl029>
- Crush, E., Arseneault, L., Jaffee, S. R., Danese, A., & Fisher, H. L. (2018). Protective factors for psychotic symptoms among poly-victimised children. *Schizophrenia Bulletin*, 44(3), 691-700.
- Currie, J., & Widom, C. S. (2010). Long-term consequences of child abuse and neglect on adult economic well-being. *Child Maltreatment*, 15(2), 111-120.  
<https://doi.org/10.1177/1077559509355316>
- Daglas, R., Conus, P., Cotton, S. M., Macneil, C. A., Hasty, M. K., Kader, L., ... Hallam, K. T. (2014). The impact of past direct-personal traumatic events on 12-month outcome in first episode psychotic mania: Trauma and early psychotic mania. *Australian and New Zealand Journal of Psychiatry*, 48(11), 1017-1024.  
<https://doi.org/10.1177/0004867414545672>
- Dye, H. (2018). The impact and long-term effects of childhood trauma. *Journal of Human Behavior in the Social Environment*, 28(3), 381-392.  
<https://doi.org/10.1080/10911359.2018.1435328>
- Enlow, M. B., Egeland, B., Blood, E. A., Wright, R. O., & Wright, R. J. (2012). Interpersonal trauma exposure and cognitive development in children to age 8 years: A longitudinal study. *Journal of Epidemiology and Community Health*, 66(11), 1005-1010.  
<https://doi.org/10.1136/jech-2011-200727>

- Fett, A. K. J., Shergill, S. S., Joyce, D. W., Riedl, A., Strobel, M., Gromann, P. M., & Krabbendam, L. (2012). To trust or not to trust: The dynamics of social interaction in psychosis. *Brain*, 135(3), 976-984. <https://doi.org/10.1093/brain/awr359>
- Fewtrell, M. S., Kennedy, K., Singhal, A., Martin, R. M., Ness, A., Hadders-Algra, M., ... Lucas, A. (2008). How much loss to follow-up is acceptable in long-term randomised trials and prospective studies? *Archives of Disease in Childhood*, 93(6), 458-461. <https://doi.org/10.1136/ad.2007.127316>
- First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. (2002). *Structured clinical interview for DSM-IV-TR Axis I disorders, research version*. New York: Biometrics Research.
- Fisher, H. L., Schreier, A., Zammit, S., Maughan, B., Munafò, M. R., Lewis, G., & Wolke, D. (2013). Pathways between childhood victimization and psychosis-like symptoms in the ALSPAC birth cohort. *Schizophrenia Bulletin*, 39(5), 1045-1055. <https://doi.org/10.1093/schbul/sbs088>
- Gibson, L. E., Alloy, L. B., & Ellman, L. M. (2016). Trauma and the psychosis spectrum: A review of symptom specificity and explanatory mechanisms. *Clinical Psychology Review*, 49, 92-105. <https://doi.org/10.1016/j.cpr.2016.08.003>
- Goldberg, L. R., & Freyd, J. J. (2006). Self-reports of potentially traumatic experiences in an adult community sample: Gender differences and test-retest stabilities of the items in a brief betrayal-trauma survey. *Journal of Trauma & Dissociation*, 7(3), 39-63. [https://doi.org/10.1300/J229v07n03\\_04](https://doi.org/10.1300/J229v07n03_04)
- Haahr, U. H., Larsen, T. K., Simonsen, E., Rund, B. R., Joa, I., Rossberg, J. I., ... Melle, I. (2018). Relation between premorbid adjustment, duration of untreated psychosis and close interpersonal trauma in first-episode psychosis. *Early Intervention in Psychiatry*, 12(3), 316-323. <https://doi.org/10.1111/eip.12315>

- Hardt, J., & Rutter, M. (2004). Validity of adult retrospective reports of adverse childhood experiences: Review of the evidence. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 45(2), 260-273. <https://doi.org/10.1111/j.1469-7610.2004.00218.x>
- Hardy, A., Emsley, R., Freeman, D., Bebbington, P., Garety, P. A., Kuipers, E. E., ... Fowler, D. (2016). Psychological mechanisms mediating effects between trauma and psychotic symptoms: The role of affect regulation, intrusive trauma memory, beliefs, and depression. *Schizophrenia Bulletin*, 42(Suppl. 1), S34-S43. <https://doi.org/10.1093/schbul/sbv175>
- Heering, H. D., Van Haren, N. E. M., Bruggeman, R., Cahn, W., de Haan, L., Kahn, R. S., ... Wiersma, D. (2016). Social functioning in patients with a psychotic disorder and first rank symptoms. *Psychiatry Research*, 237, 147-152. <https://doi.org/10.1016/j.psychres.2016.01.050>
- Heinrichs, D. W., Hanlon, T. E., & Carpenter, W. T. (1984). The quality of life scale: An instrument for rating the schizophrenic deficit syndrome. *Schizophrenia Bulletin*, 10(3), 388-398. <https://doi.org/10.1093/schbul/10.3.388>
- Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., ... Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. *The Lancet Public Health*, 2(8), e356-e366. [https://doi.org/10.1016/S2468-2667\(17\)30118-4](https://doi.org/10.1016/S2468-2667(17)30118-4)
- Jaworska, N., & MacQueen, G. (2015). Adolescence as a unique developmental period. *Journal of Psychiatry and Neuroscience*, 40(5), 291-293. <https://doi.org/10.1503/jpn.150268>



- Kay, S. R., Fiszbein, A., & Opler, L. A. (1987). The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophrenia Bulletin*, 13(2), 261-276. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/3616518>
- Kelleher, I., Keeley, H., Corcoran, P., Ramsay, H., Wasserman, C., Carli, V., ... Cannon, M. (2013). Childhood trauma and psychosis in a prospective cohort study: Cause, effect, and directionality. *American Journal of Psychiatry*, 170(7), 734-741. <https://doi.org/10.1176/appi.ajp.2012.12091169>
- Kerr, I. B., Birkett, P. B. L., & Chanen, A. (2003). Clinical and service implications of a cognitive analytic therapy model of psychosis. *Australian and New Zealand Journal of Psychiatry*, 37(5), 515-523. <https://doi.org/10.1046/j.1440-1614.2003.01200.x>
- Kessler, R. C., McLaughlin, K. A., Green, J. G., Gruber, M. J., Sampson, N. A., Zaslavsky, A. M., ... Williams, D. R. (2010). Childhood adversities and adult psychopathology in the WHO world mental health surveys. *British Journal of Psychiatry*, 197(5), 378-385. <https://doi.org/10.1192/bjp.bp.110.080499>
- Kilian, S., Burns, J. K., Seedat, S., Asmal, L., Chiliza, B., Du Plessis, S., ... Emsley, R. (2017). Factors moderating the relationship between childhood trauma and premorbid adjustment in first-episode schizophrenia. *PLoS ONE*, 12(1), e0170178. <https://doi.org/10.1371/journal.pone.0170178>
- Kraan, T. C., Ising, H. K., Fokkema, M., Velthorst, E., van den Berg, D. P. G., Kerkhoven, M., ... van der Gaag, M. (2017). The effect of childhood adversity on 4-year outcome in individuals at ultra-high risk for psychosis in the Dutch early detection intervention evaluation (EDIE-NL) trial. *Psychiatry Research*, 247, 55-62. <https://doi.org/10.1016/j.psychres.2016.11.014>
- Lehman, A. F. (1988). A quality of life interview for the chronically mentally ill. *Evaluation and Program Planning*, 11(1), 51-62. [https://doi.org/10.1016/0149-7189\(88\)90033-X](https://doi.org/10.1016/0149-7189(88)90033-X)

- Levitan, R. D., Parikh, S. V., Lesage, A. D., Hegadoren, K. M., Adams, M., Kennedy, S. H., & Goering, P. N. (1998). Major depression in individuals with a history of childhood physical or sexual abuse: Relationship to neurovegetative features, mania, and gender. *American Journal of Psychiatry*, 155(12), 1746-1752.  
<https://doi.org/10.1176/ajp.155.12.1746>
- Lin, M., Lucas, H. C., & Shmueli, G. (2013). Too big to fail: Large samples and the p-value problem. *Information Systems Research*, 24(4), 906-917.  
<https://doi.org/10.1287/isre.2013.0480>
- Lincoln, T. M., Marin, N., & Jaya, E. S. (2017). Childhood trauma and psychotic experiences in a general population sample: A prospective study on the mediating role of emotion regulation. *European Psychiatry*, 42, 111-119.  
<https://doi.org/10.1016/j.eurpsy.2016.12.010>
- Longden, E., Sampson, M., & Read, J. (2016). Childhood adversity and psychosis: Generalised or specific effects? *Epidemiology and Psychiatric Sciences*, 25(4), 349-359. <https://doi.org/10.1017/S204579601500044X>
- Lysaker, P. H., & Larocco, V. A. (2009). Health-related quality of life and trauma history in adults with schizophrenia spectrum disorders. *Journal of Nervous and Mental Disease*, 197(5), 311-315. <https://doi.org/10.1097/NMD.0b013e3181a2070e>
- Lysaker, P. H., Meyer, P. S., Evans, J. D., Clements, C. A., & Marks, K. A. (2001). Childhood sexual trauma and psychosocial functioning in adults with schizophrenia. *Psychiatric Services*, 52(11), 1485-1488. <https://doi.org/10.1176/appi.ps.52.11.1485>
- MacCallum, R. C., Zhang, S., Preacher, K. J., & Rucker, D. D. (2002). On the practice of dichotomization of quantitative variables. *Psychological Methods*, 7(1), 19-40.  
<https://doi.org/10.1037//1082-989X.7.1.19>

- Malekpour, M. (2007). Effects of attachment on early and later development. *The British Journal of Development Disabilities*, 53(105), 81-95.  
<https://doi.org/10.1179/096979507799103360>
- Mansueto, G., & Faravelli, C. (2017). Recent life events and psychosis: The role of childhood adversities. *Psychiatry Research*, 256, 111-117.  
<https://doi.org/10.1016/j.psychres.2017.06.042>
- McCutcheon, V. V., Heath, A. C., Nelson, E. C., Bucholz, K. K., Madden, P. A. F., & Martin, N. G. (2009). Accumulation of trauma over time and risk for depression in a twin sample. *Psychological Medicine*, 39(3), 431-441.  
<https://doi.org/10.1017/S0033291708003759>
- Mellacqua, Z. (2014). Beyond Symbiosis. *Transactional Analysis Journal*, 44(1), 8-30.  
<https://doi.org/10.1177/0362153714529410>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & the PRISMA group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *BMJ*, 339, b2535. <https://doi.org/10.1136/bmj.b2535>
- Monnat, S. M., & Chandler, R. F. (2015). Long-term physical health consequences of adverse childhood experiences. *Sociological Quarterly*, 56(4), 723-752.  
<https://doi.org/10.1111/tsq.12107>
- Morgan, C., & Gayer-Anderson, C. (2016). Childhood adversities and psychosis: Evidence, challenges, implications. *World Psychiatry*, 15(2), 93-102.  
<https://doi.org/10.1002/wps.20330>
- Morosini, P. L., Magliano, L., Brambilla, L., Ugolini, S., & Pioli, R. (2000). Development, reliability and acceptability of a new version of the DSM-IV social occupational functioning assessment scale (SOFAS) to assess routine social functioning. *Acta*

*Psychiatrica Scandinavica*, 101(4), 323-329. <https://doi.org/10.1034/j.1600-0447.2000.101004323.x>

Newbury, J. B., Arseneault, L., Moffitt, T. E., Caspi, A., Danese, A., Baldwin, J. R., & Fisher, H. L. (2018). Measuring childhood maltreatment to predict early-adult psychopathology: Comparison of prospective informant-reports and retrospective self-reports. *Journal of Psychiatric Research*, 96, 57-64.

<https://doi.org/10.1016/j.jpsychires.2017.09.020>

Ogle, C. M., Rubin, D. C., & Siegler, I. C. (2013). The impact of the developmental timing of trauma exposure on PTSD symptoms and psychosocial functioning among older adults. *Developmental Psychology*, 49(11), 2191-2200.

<https://doi.org/10.1037/a0031985>

Palmier-Claus, J., Berry, K., Darrell-Berry, H., Emsley, R., Parker, S., Drake, R., & Bucci, S. (2016). Childhood adversity and social functioning in psychosis: Exploring clinical and cognitive mediators. *Psychiatry Research*, 238, 25-32.

<https://doi.org/10.1016/j.psychres.2016.02.004>

Patel, R., Oduola, S., Callard, F., Wykes, T., Broadbent, M., Stewart, R., ... McGuire, P. (2017). What proportion of patients with psychosis is willing to take part in research? A mental health electronic case register analysis. *BMJ Open*, 7(3), e013113.

<https://doi.org/10.1136/bmjopen-2016-013113>

Peris, T. S., & Miklowitz, D. J. (2015). Parental expressed emotion and youth psychopathology: New directions for an old construct. *Child Psychiatry and Human Development*, 46(6), 863-873. <https://doi.org/10.1007/s10578-014-0526-7>

Pilton, M., Bucci, S., McManus, J., Hayward, M., Emsley, R., & Berry, K. (2016). Does insecure attachment mediate the relationship between trauma and voice-hearing in

psychosis? *Psychiatry Research*, 246, 776-782.

<https://doi.org/10.1016/j.psychres.2016.10.050>

Read, J., & Gumley, A. (2010). Can attachment theory help explain the relationship between childhood adversity and psychosis? In S. Benamer (Ed.), *Telling stories? Attachment-based approaches to the treatment of psychosis* (pp. 51-94). London, England: Karnac Books.

Read, J., Perry, B. D., Moskowitz, A., & Connolly, J. (2001). The contribution of early traumatic events to schizophrenia in some patients: A traumagenic neurodevelopmental model. *Psychiatry: Interpersonal and Biological Processes*, 64(4), 319-345. <https://doi.org/10.1521/psyc.64.4.319.18602>

Reininghaus, U., Gayer-Anderson, C., Valmaggia, L., Kempton, M. J., Calem, M., Onyejiaka, A., ... Morgan, C. (2016). Psychological processes underlying the association between childhood trauma and psychosis in daily life: An experience sampling study. *Psychological Medicine*, 46(13), 2799-2813. <https://doi.org/10.1017/S003329171600146X>

Resnick, H. S., Best, C. L., Kilpatrick, D. G., Freedy, J. R., & Falsetti, S. A. (1993). *Trauma Assessment for Adults-Self-Report Version (TAA-SR)*. Unpublished scale. Charleston, SC: National Crime Victims Research and Treatment Center, Medical University of South Carolina.

Riggs, S. A. (2010). Childhood emotional abuse and the attachment system across the life cycle: What theory and research tell us. *Journal of Aggression, Maltreatment & Trauma*, 19(1), 5-51. <https://doi.org/10.1080/10926770903475968>

Ryle, A., & Kerr, I. B. (2002). *Introducing cognitive analytic therapy. Principles and practice*. West Sussex, England: John Wiley & Sons Ltd.

Santrock, J. W. (2001). *Adolescence: An introduction*. New York, NY: McGraw-Hill Education.

Saunders, B. E., & Adams, Z. W. (2014). Epidemiology of traumatic experiences in childhood. *Child and Adolescent Psychiatric Clinics of North America*, 23(2), 167-184. <https://doi.org/10.1016/j.chc.2013.12.003>

Scammacca, N., Roberts, G., & Stuebing, K. K. (2014). Meta-analysis with complex research designs: Dealing with dependence from multiple measures and multiple group comparisons. *Review of Educational Research*, 84(3), 328-364. <https://doi.org/10.3102/0034654313500826>

Stain, H. J., Brønnick, K., Hegelstad, W. T. V., Joa, I., Johannessen, J. O., Langeveld, J., ... Larsen, T. K. (2014). Impact of interpersonal trauma on the social functioning of adults with first-episode psychosis. *Schizophrenia Bulletin*, 40(6), 1491-1498. <https://doi.org/10.1093/schbul/sbt166>

Strauss, J. S., & Carpenter, W. T. (1972). The prediction of outcome in schizophrenia: I. characteristics of outcome. *Archives of General Psychiatry*, 27(6), 739-746. <https://doi.org/10.1001/archpsyc.1972.01750300011002>

Susser, E., & Widom, C. S. (2012). Still searching for lost truths about the bitter sorrows of childhood. *Schizophrenia Bulletin*, 38(4), 672-675. <https://doi.org/10.1093/schbul/sbs074>

Tarbox, S. I., & Pogue-Geile, M. F. (2008). Development of social functioning in pre-schizophrenia children and adolescents: A systematic review. *Psychological Bulletin*, 134(4), 561-583. <https://doi.org/10.1037/0033-2909.34.4.561>

Tohen, M., Hennen, J., Zarate, C. M. B., Strakowski, S. M., Stoll, A. L., Faedda, G. L., ... Cohen, B. M. (2000). Two-year syndromal and functional recovery in 219 cases of

- first episode major affective disorder with psychotic features. *American Journal of Psychiatry*, 157(2), 220-228.
- Trauelsens, A. M., Bendall, S., Jansen, J. E., Nielsen, H. G. L., Pedersen, M. B., Trier, C. H., ... Simonsen, E. (2016). Childhood adversities: Social support, premorbid functioning and social outcome in first-episode psychosis and a matched case-control group. *Australian and New Zealand Journal of Psychiatry*, 50(8), 770-782.  
<https://doi.org/10.1177/0004867415625814>
- Trotta, A., Murray, R. M., & Fisher, H. L. (2015). The impact of childhood adversity on the persistence of psychotic symptoms: A systematic review and meta-analysis. *Psychological Medicine*, 45(12), 2481-2498.  
<https://doi.org/10.1017/S0033291715000574>
- Van der Kolk, B. (2000). Posttraumatic stress disorder and the nature of trauma. *Dialogues in Clinical Neuroscience*, 2(1), 7-22. [https://doi.org/10.1007/978-1-4471-4225-6\\_2](https://doi.org/10.1007/978-1-4471-4225-6_2)
- Veazie, P. J. (2006). When to combine hypotheses and adjust for multiple tests. *Health Services Research*, 41(3), 804-818. <https://doi.org/10.1111/j.1475-6773.2006.00512.x>
- Velthorst, E., Fett, A. K. J., Reichenberg, A., Perlman, G., Van Os, J., Bromet, E. J., & Kotov, R. (2016). The 20-year longitudinal trajectories of social functioning in individuals with psychotic disorders. *American Journal of Psychiatry*, 174(11), 1075-1085. <https://doi.org/10.1176/appi.ajp.2016.15111419>
- Viertiö, S., Tuulio-Henriksson, A., Perälä, J., Saarni, S. I., Koskinen, S., Sihvonen, M., ... Suvisaari, J. (2012). Activities of daily living, social functioning and their determinants in persons with psychotic disorder. *European Psychiatry*, 27(6), 409-415. <https://doi.org/10.1016/j.eurpsy.2010.12.005>

- Wang, Q., Ge, X., Wang, H. X., Shi, Q. M., Ding, Z., & Xu, L. C. (2018). Association of androgen receptor gene CAG and GGN repeat polymorphism with cryptorchidism: A meta-analysis. *Andrologia*, 50(3), e12909. <https://doi.org/10.1111/and.12909>
- Ware, J. E., & Sherbourne, C. D. (1992). The MOS 36-Item short-form health survey (SF-36). *Medical Care*, 30(6), 473-483. <https://doi.org/10.1097/00005650-199206000-00002>
- Wells, G. A., Shea, B., O'Connell, D., Peterson, J., Welch, V., Losos, M., ... Loeb, M. (2014). *The Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomized studies in meta-analysis*. Retrieved from [http://www.ohri.ca/programs/clinical\\_epidemiology/oxford.asp](http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp)
- Yung, A. R., Yung, A. R., Pan Yuen, H., McGorry, P. D., Phillips, L. J., Kelly, D., ... Buckby, J. (2005). Mapping the onset of psychosis: The comprehensive assessment of at-risk mental states. *Australian & New Zealand Journal of Psychiatry*, 39(11-12), 964-971. <https://doi.org/10.1080/j.1440-1614.2005.01714.x>



## **Chapter 2: Empirical Paper**

### **A Grounded Theory Study of Cognitive Analytic Therapy (CAT) Practitioners' Perspectives on Working with Psychosis: Implications for Theoretical Understanding**

Word count: 10,930<sup>3</sup>

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<sup>3</sup> Paper prepared for submission to the *British Journal of Clinical Psychology* for peer review. Author guidelines are in Appendix E. American Psychological Association (2010) 6<sup>th</sup> Edition referencing style is used.

### **Abstract**

*Objectives:* While a preliminary CAT-based model for psychosis was developed by Kerr and colleagues (2000) over 15 years ago, there is a need to explore whether theoretical understanding of this model should be revised in light of practitioner's reflections about their experiences of applying the model in practice and research contexts. Using grounded theory methodology, this study aimed to further develop and refine the preliminary model of CAT for psychosis, from CAT practitioners' perspectives.

*Design:* A qualitative design using a constructivist approach to grounded theory was chosen.

*Method:* Semi-structured interviews were completed with nine CAT practitioners working in secondary mental health services across the British Isles.

*Results:* An adapted CAT-based model of psychosis emerged from analysis. A number of additional psychosocial factors were identified that could enrich the preliminary model, including individual and social context, insecure avoidant attachment styles, intolerable core emotions (such as shame, fear, and rage) and internal dialogue, defence mechanisms (such as narcissism, escapism, dissociation, splitting, and projection), and specific maladaptive reciprocal roles associated with the development of delusional and hallucinatory experiences.

*Conclusions:* In addition to the processes highlighted by Kerr et al. (2000), clinicians applying a CAT approach to psychosis should consider incorporating specific consideration of social context, attachment styles, defence mechanisms, and increasing dialogue with intolerable parts of the self and the psychotic experiences, into their assessment and treatment work. Further research is warranted to clarify the roles of these psychosocial processes in the formation of psychosis, and the usefulness of CAT as an integrative, relational therapeutic modality for psychosis.

**Keywords:** Psychosis, cognitive analytic therapy, constructivist grounded theory, insecure attachment, defence mechanisms, dialogical self-theory.

## **Introduction**

The term ‘psychosis’ lacks a unified definition but is commonly described as a clinical construct composed of core experiences often associated with a detachment from reality, such as hearing voices, visions, paranoia, delusional beliefs, flashbacks, confused or disturbed thoughts (Gaebel & Zielasek, 2015). Psychosis can create a burden for individuals who experience them, their families, mental health services, and for society in general (Knapp, Mangalore, & Simon, 2004). A medical approach currently dominates the conceptualisation of psychosis (Deacon, 2013). This approach focuses on diagnosis, genetic abnormalities, brain dysfunction, and pharmacological treatment (Lonergan, 2017).

The National Institute for Health and Care Excellence (NICE, 2014) guideline recommends a range of interventions for first episode and recurrence of psychosis. While services often provide antipsychotic medication as first-line treatment, there is a move to increasing psychological interventions for people at high risk of or experiencing first episode psychosis (NHS England, 2016). Psychological approaches to understanding psychosis may be less associated with stigma, social distance, and perceptions of dangerousness than the medical model (Beecher, 2009; Lincoln, Arens, Berger, & Rief, 2008).

## **Psychological Conceptualisations of Psychosis**

Given the complex nature of psychosis, it is difficult to conceptualise it at both theoretical and application levels (Kroll, 2007). An early attempt to conceptualise psychosis from a psychological position was by Sigmund Freud (1894; 1940). He viewed psychosis as the result of an extremely harsh childhood environment leading to regression to a pre-ego stage of development and the disintegration of the ego (De Oliveira Moreira & Drawin, 2015). Klein (1946) suggested that ego mechanisms of defence (e.g., splitting) are part of normal development and at the same time form the basis for later psychotic illness. The

current evidence-base for the psychodynamic conceptualisations of psychosis is largely based on single case studies, thus the conclusions drawn from these studies are limited by bias and lack generalisability (Willemssen, Della Rosa, & Kegerreis, 2017). Rigorous studies are sparse in psychodynamic research in general, because it is difficult to conduct a controlled trial when it is difficult to measure change in the inner world of the self (McLeod, 2010).

In the last thirty years, psychosis has become a significant area of interest in terms of both psychological research and practice. Many authors consider psychotic experiences along a continuum of 'normal' human experiences (O'Connor, 2009; Stip & Letourneau, 2009). This conceptualisation of 'psychosis on a continuum' has challenged the historical notion of psychosis as being qualitatively distinct to normality (Lawrie, 2016). Yet, empirically, it is very difficult to prove that psychotic experience is on a continuum with normality (Lawrie, Hall, McIntosh, Owens, & Johnstone, 2010). A recent study by Elahi and colleagues (2017) using taxometric methodology found that paranoid delusions may exist on a continuum across the general population.

Nevertheless, this conceptualisation is in line with the vulnerability-stress coping model for schizophrenia (Zubin & Spring, 1977), which is central to psychological conceptualisations of psychosis. According to this model, psychosis develops when there is a vulnerable predisposition of biological origin interacting with psychosocial stress that an individual is unable to cope with (Yank, Bentley, & Hargrove, 1993). While there are many studies in support of this model (e.g., Corcoran et al., 2003; Walker, Mittal & Tessner, 2008), there are also various conceptual issues involving the subjectivity of stress and the non-specificity of vulnerability (Rudnick & Lundberg, 2012).

Recent developments have highlighted the influential roles of cognitive appraisals, coping styles, and adjustment on psychosis (Zappia et al., 2012). Unlike the vulnerability-stress model (Zubin & Spring, 1977), the cognitive models emphasise that biopsychosocial

vulnerabilities interact with cognitive and emotional processes to bias appraisal of anomalous experiences, which develop into psychotic experiences (Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001; Hemsley, 1993; Morrison, 2001). Longitudinal studies have provided support to the role of appraisal processes in psychosis (e.g., Krabbendam et al., 2005), though further robust research is needed to confirm this relationship (Moritz et al., 2017). Moreover, these models emphasise the euro-centricity of a collaborative empiricism which varies across cultures (Phiri, Rathod, Carr, & Kingdon, 2017).

It is widely accepted that psychosocial processes may contribute to the increased vulnerability of psychosis (Davis et al., 2016), including poverty (Read, 2010), attachment (Read & Gumley, 2008), substance use (Addington et al., 2014), dissociation (Sun et al., 2018), and childhood trauma (Longden, Sampson, & Read, 2016; Prot-Klinger, 2016). A traumagenic neurodevelopmental model (Read, Perry, Moskowitz, & Connolly, 2001) proposed that psychosis develops from neurodevelopmental changes to the brain caused by childhood trauma, in conjunction with these processes. Over 125 studies have provided either indirect support or direct confirmation of this model (Read, Fosse, Moskowitz, & Perry, 2014). Current evidence suggests that childhood adversity might contribute to interpersonal relationship problems in adults experiencing psychosis (e.g., Stain et al., 2014).

### **Relational Perspectives of Psychosis**

Childhood adversity may interfere with the potential to develop a healthy attachment style (Ainsworth, 1985; Berry, Barrowclough, & Wearden, 2008; Brown, 2017), which may result in intra- and interpersonal functioning difficulties (Baek, 2014; Cole, Strauss, Fife-Schaw, & McCarthy-Jones, 2017; Stain et al., 2014), and increased vulnerability of developing psychosis (Korver-Nieber, 2014). It has been suggested that primary attachment figures (Carr, Hardy, & Fornells-Ambrojo, 2018) and relational patterns play a

developmental role in psychosis (Ratcliffe, 2015), particularly in relation to voice hearing (Robson & Mason, 2015). For example, phenomenological studies have found similarities between the voices and significant people in a person's life (e.g., Nayani & David, 1996).

The dialogical self-theory (Hermans, Kempen, & Van Loon, 1992) has also been applied to the conceptualisation of voice hearing. According to Hermans and Dimaggio (2004), the dialogical self can be defined as a “dynamic multiplicity of relationally organised I-other positions...or multiple internalised voices” (p. 78). It has been asserted that the sense of self may develop through ongoing intra- and interpersonal communication (Bakhtin, 1984; Lysaker & Lysaker, 2008), but when these dialogues are disrupted, this may lead to the development of voice hearing (Harvey et al., 2008). However, this theory lacks a firm empirical status at present (Batory, Bąk, Oleś, & Puchalska-Wasyl, 2010). Despite this, a relational approach to understanding and working with psychosis may be normalising, hopeful, and more personally meaningful for some people (Hayward & Fuller, 2010).

### **Psychological Interventions for Psychosis**

The evidence-base for psychological interventions for psychosis is growing (Chien, Leung, Yeung, & Wong, 2013), leading to cognitive behavioural therapy for psychosis (CBTp) and family interventions being recommended as first-line treatment in the United Kingdom (NICE, 2014). CBTp mainly targets the emotional and functioning impact of psychosis rather than the presence of psychotic symptoms (Birchwood, Shiers, & Smith, 2014), though several reviews have revealed benefits of CBTp for positive symptoms of psychosis (e.g., Van der Gaag, Valmaggia, & Smit, 2014). Despite this, there has been recent debates published in various journals about the confirmation of CBTp as evidence-based practice (McKenna & Kingdon, 2014; Thomas, 2015).

Meta-analytic findings have shown that family interventions for psychosis improve general wellbeing and reduce conflict-laden communication styles (Claxton, Onwumere, & Fornells-Ambrojo, 2017). However, the implementation of family interventions remains well below recommended levels at present (Bucci, Berry, Barrowclough, & Haddock, 2016). According to Guy, Thomas, Stephenson, and Loewenthal (2011), there is a current dominance of specific psychological interventions within NICE guidelines in general (e.g., CBT), due to the need for robust evidence from controlled trials. This has resulted in limited options of psychological interventions available for the treatment of psychotic experiences.

In the current context of an increase in complex mental health referrals and socioeconomic pressures, there is a clinical need to focus on the whole-system, causal factors of psychosis, and increase the choice of psychological therapies available (Edwards, Macpherson, Commander, Meaden, & Kalidindi, 2016; Mehl, Werner, & Lincoln, 2015).

### **Relational Interventions for Psychosis**

Emerging studies have suggested that relationally-based interventions for psychosis may enable a more thorough exploration of childhood trauma and attachment (Brown, 2017), and may be helpful in reducing distress and improving interpersonal relationships, including the relationship with the psychotic experience (Hayward, Berry, & Ashton, 2011). Furthermore, hearing voices groups and open dialogue network meetings have been found effective in assisting with the meaning-making processes for people with experiences of psychosis (Lonergan, 2017). In accordance to both Ryle (2012) and Taplin (2015), cognitive analytic therapy (CAT) can offer a more comprehensive framework than CBT and the medical model, by attending to the relational, sociocultural, and political contextual influences upon psychosis.

In the 1980's, with the needs of the NHS in mind, Dr Anthony Ryle developed CAT as a time-limited, integrative relational model of therapy that draws upon personal construct, object relations, and cognitive theories (Ryle & Kerr, 2002). Ryle (1985) proposed that early interpersonal experiences (from primary caregivers) play a fundamental role in the development of patterns of relating to others and the self. Overtime, these relational experiences become internalised as an 'other-to-self,' 'self-to-other,' and 'self-to-self' patterns, referred to as 'reciprocal roles.' More recently, CAT has been further developed by influences from Vygotsky's (1962) social developmental theory and Bakhtin's (1984) concept of dialogism (Ryle, 2001). According to Bakhtin (1984), any spoken or written utterances that people use in communication with each other is internally dialogic/polyphonic (multi-voiced), and meaning making is evolved out of social interactions (Nesari, 2015).

Kellett (2012) suggested that intra- and interpersonal difficulties develop when an individual has a maladaptive repertoire of reciprocal roles, that are maintained by 'reciprocal role procedures' (RRPs). These are "aim directed sequences of mental and behavioural processes, associated with affect, and used as guidelines for action" (Roth & Pilling, 2014, p. 2). Maladaptive reciprocal roles and procedures are regarded as neurotic ways of coping with or avoiding intolerable emotions related to negative role positions (Ryle, 1990). The effectiveness of CAT as an intervention for a range of psychological problems has been demonstrated in an increasing number of controlled trials and reviews (Calvert & Kellett, 2014; Clarke, Thomas, & James, 2013; Evans, Kellett, Heyland, Hall, & Majid, 2017).

CAT practitioner training is a two-year course which enables core mental health professionals to become socialised to the theory, research, and methods of CAT. CAT is typically between 16-24 sessions, involving a process of mapping out past relational experiences, identifying enactments of RRPs, and modifying unhelpful patterns of relating (Ryle & Kerr, 2002). Sessions usually incorporate tools, such as the psychotherapy file,



transference and countertransference (Horowitz, 2002; Ryle, 1995), reformulation letter, diagrammatic reformulation, self-monitoring sheets, and goodbye letters (Ryle, 2003). CAT practitioners' stance is collaborative and explicit attention is given to enactments of RRP in the therapeutic relationship (Johnstone & Dallos, 2006).

### **CAT Perspective of Psychosis**

A preliminary CAT-based model of psychosis has been proposed by Dr Ian Kerr and colleagues (2000), and illustrated in some case studies (Falchi, 2007; Kerr, Birkett, & Chanen, 2003; Kerr, Crowley, & Beard, 2006; Perry, 2012). This model describes maladaptive RRP as arising from early experiences of interpersonal stress and compounded by core neurocognitive deficits (Kerr et al., 2003). Psychotic experiences can be understood as “distorted, amplified, or muddled enactments of maladaptive RRP, and their associated dialogic voices” (Kerr et al., 2003, p. 517), resulting from secondary ‘self-state’ damage to the self (Kerr et al., 2000). According to this model, internalised speech would represent unusual phenomena in ‘psychotic self-states’, thus experienced as overt auditory hallucinations. Such experiences might also arise from misattribution of perception due to executive function deficits (Aas et al., 2014; Kimhy et al., 2012; Tracy & Shergill, 2013).

There has been a recent shift to explicitly focus on ‘self-states’ as a theoretical construct for understanding complex psychological difficulties as a cluster of partially dissociated emotions, behaviours, and relational dispositions (Margison, 2005; Ryle, 1995). Ryle (1997) developed the ‘multiple self-states model’ to conceptualise personality and identity disturbance along a continuum of severity of dissociative processes (Pollock, Broadbent, Clarke, Dorrian, & Ryle, 2001). With this framework in mind, Perry (2012) hypothesised that two or more disconnected ‘self-states’ may be active and occurring simultaneously in people experiencing voice hearing.

CAT is not commonly used in mental health services for psychosis (Taylor, Jones, Huntley, & Seddon, 2017). Evidence for the acceptability, feasibility, and efficacy of CAT as an intervention for psychosis has been asserted from case studies and small-scale research (Gleeson et al., 2012; Graham & Thavasothy, 1995; Kerr, 2001; Mitzman & Duignan, 1993). Taylor et al. (2017) found that CAT practitioners were flexible around using the CAT-specific tools when working with psychosis, such as the timing of the reformulation letter. No other studies have been published in this area, indicating paucity of literature around understanding psychosis in terms of the theoretical underpinnings and application of CAT.

CAT has been considered as a useful intervention for people with experiences of psychosis (e.g., Taylor, Perry, Hutton, Seddon, & Tan, 2015). The dialogical nature of CAT and the reformulation tools can provide a means to make sense of early traumatic experiences and relational patterns, and how they can lead to present difficulties (Kerr et al., 2003). Additionally, the focus on interpersonal relationships in CAT is appropriate as many psychotic experiences can be understood as inherently relational in nature (Pérez-Álvarez, García-Montes, Perona-Garcelán, & Vallina-Fernández, 2008). Furthermore, the transparent and collaborative process of therapy can be helpful for building trust and alliance with people who might have previously disengaged from services (Dixon, Holoshitz, & Nossel, 2016).

### **Rationale for Present Study**

While a preliminary CAT-based model for psychosis has been developed by Kerr and colleagues over 15 years ago, there is a need to explore whether theoretical understanding of the CAT-based model of psychosis should be revised in light of practitioner's reflections about their experiences of applying the model in clinical and research contexts. Research on cognitive behavioural, neurobiological, object relations, and social developmental theories have expanded since this preliminary model emerged. Therefore, this study aimed to address

the following research questions: (i) How do CAT practitioners understand psychosis? (ii) How might CAT practitioners' experience of using CAT for psychosis help to develop Kerr et al.'s (2000) preliminary model of CAT for psychosis?

## **Method**

### **Rationale for Choice of Methodology**

A qualitative design using a social constructivist approach to grounded theory methodology (Charmaz, 2014) was adopted in this study. Constructivist grounded theory is an inductive research method that involves both the researcher and participants mutually co-constructing meaning during interviews, and the development of an emergent theory grounded in the meaningful reconstruction of their narratives and actions (Charmaz, 2014). The other tenets of constructivist grounded theory procedures are flexible data collection, systematic coding, constant comparisons, theoretical sampling, theoretical saturation, and researcher reflexivity (Bryant & Charmaz, 2010).

In comparison to other qualitative methods which take a more descriptive or interpretative stance to data analysis, the constructivist grounded theory method is used for conceptualising underlying social processes, rather than simply describing them (Allan, 2003). This method is generally suitable when little is known about the area of study and theory generation is the desired outcome (Strauss & Corbin, 1998). Given the scarcity in the literature examining CAT for psychosis, and the explanatory nature of the research questions, the constructivist grounded theory method was deemed to be most appropriate for this study.

### **Reflexive Practice**

In accordance with constructivist grounded theory principles (Charmaz, 2014), a reflexive diary was kept which contained memos about the ideas evolving from the

interviews and analysis (Cutcliffe, 2003). Discussions with research supervisors and peers were also noted down in the diary. These reflexive practices helped to keep track of ideas and concepts behind the emerging theory, and how they shaped subsequent interviews and analysis. The researchers were also aware of their own background, ontological, and epistemological positions. A reflexive statement was written at the start of the study by S.H:

I am a 32-year-old British Asian woman who carried out this research during my second and final years of the Doctorate in Clinical Psychology. My previous two research dissertations were also on the topic of psychosis. This interest stemmed from my work as a Nursing Assistant over 10 years ago, where I observed people detained under the Mental Health Act 1983. The service users had experienced extreme early life trauma and used substances and self-injury to cope with their emotional distress. They were frequently labelled with treatment-resistant schizophrenia and sedated on psychotropic medication.

I have no personal experience of psychosis and I have not worked in an Early Intervention service. As a Trainee Clinical Psychologist, I delivered CAT with people with a learning disability and discovered a relative paucity of literature in CAT generally. I have attended doctoral-level teaching on CAT and psychosis. I have an interest in supporting people to develop a positive sense of self and strong interpersonal relationships. I prefer to adopt a biopsychosocial formulation approach to conceptualising psychological difficulties. Throughout the conduct of this study, I embraced a relativist, transactional, and subjectivist stance. I have found the research experience to be daunting and tedious at times. I have learnt that research requires careful consistent work and can make meaningful contributions.

### **Consultation with Experts by Experience**

The Clinical Psychology Department, University of Liverpool, arranged a research consultation session with local Experts by Experience, where they were asked about their

views on the research aims and recruitment process during the early stages of the study. The Experts by Experience spoke positively of the research aims and the use of Skype interviews as part of data collection, thus no alterations were made to the research aims and procedures.

## **Ethics**

Approval for the study to take place was obtained from the University of Liverpool's Committee of Research Ethics (Appendix F), the Health Research Authority (Appendix G), and local research and development departments at ten NHS Trusts in the United Kingdom and one site in the Channel Islands. The study adhered to the British Psychological Society (2010) and Health and Care Professions Council (2015) codes of ethics and conduct.

## **Recruitment**

The contact details of participants were obtained from (a) relevant and published journal articles, (b) the Association for Cognitive Analytic Therapy (ACAT) website, (c) the research supervisor who works in an Early Intervention in Psychosis service, and (d) word of mouth. Participants were invited by e-mail (Appendix H) and asked to read the participant information sheet (Appendix I) and complete the demographic information sheet (Appendix J), the expression of interest form (Appendix K), and the participant consent form (Appendix L) if they were interested in taking part in a semi-structured interview. The expression of interest form was used to decide about whether the individual met the inclusion criteria for the study. Inclusion criteria were (a) a qualified health professional, (b) an accredited CAT practitioner, and (c) have recent experience (within 12 months) of the clinical practice of CAT with people who have experiences of psychosis. Exclusion criteria were (a) not fluent in the English language and (b) a CAT practitioner in training.

## Participants

A convenience sample of nine people participated in this study (two males and seven females), with ages ranging from 30 to 69. Demographic information for participants is presented in Table 1 (not in original participation order to maintain anonymity).

Demographic information about the participants' professional group and the name of the service they were recruited from were obtained in this study, but this information identified participants thus has been excluded from Table 1.

Table 1

*Demographic Information of Participants (N = 9)*

ID	Gender	Age Range	No. of Years in Qualified CAT Practice	Applied CAT to Psychotic Experiences
1	Female	40-49	6-9	Paranoia & voices
2	Female	40-49	6-9	All experiences
3	Male	40-49	0-2	Acute psychosis, voices, paranoia & delusions
4	Male	40-49	6-9	Voices & paranoia
5	Female	40-49	0-2	Voices & distorted thoughts
6	Female	40-49	6-9	Voices, delusions & visual hallucinations
7	Female	30-39	0-2	Paranoia, delusions & voices
8	Female	50-59	3-5	All experiences
9	Female	60-69	10+	All experiences

The nine participants were all health professionals and accredited CAT practitioners working closely with people with experiences of psychosis, within different secondary mental health services across the British Isles. All nine participants had also conducted research on psychosis and/or CAT. Seven participants were from the clinical psychology profession. All nine participants had applied CAT to voice hearing, whereas the application of CAT to other psychotic experiences varied across this sample. Participants 3, 4, and 9 were interviewed via Skype, while the rest were face-to-face interviews.

## **Interviews**

Participants who met the inclusion criteria were contacted by e-mail to arrange a convenient time for the semi-structured interview. The expression of interest form detailed their preferred interview method, either face-to-face (taken place at their workplace) or Skype video call. The interviews were recorded by digital voice recorder and lasted between 43 and 66 minutes. Participants were asked to use non-identifiable information during the interview, and any identifiable information was changed to pseudonyms to maintain anonymity.

An initial interview schedule was used throughout the first five interviews (Appendix M), which included questions based on the research aims (e.g., “how has CAT training influenced your conceptualisation of psychosis?”). Open-ended questions enabled participants to open up about their experiences (e.g., “how did you illustrate and represent the different psychotic experiences on the map?”). Follow-up questions prompted further exploration and curiosity of emerging concepts (e.g., “which reciprocal roles have you found to be directly related to service users’ relationship with the voices?”). The interview schedule evolved across the interviews consistent with constructivist grounded theory (Charmaz, 2014), thus an adapted interview schedule (Appendix N) was used throughout the last four interviews to follow up on emerging themes. This included less questions on the structure and process of the therapy, and more questions on the theoretical underpinnings of CAT for psychosis (e.g., “how do you think psychosis is broadly captured in the use of self-states?”).

## **Analytic Procedure**

Analysis of the interview data was guided by the guidelines proposed by Charmaz (2014), which comprised a process of initial coding, focused coding, memo writing, constant comparative method, theoretical sampling, theoretical saturation, development of theoretical categories and the emerging theory (Charmaz, 2014). A flexible approach to constructivist

grounded theory analysis was adopted, as simultaneous data collection and analysis was not viable in this study (Charmaz, 2014). Microsoft Excel spreadsheet was used for coding, storing, and managing all the data throughout analysis.

The first two interviews were fully transcribed verbatim by the first author, which allowed complete immersion in the data to grasp its meaning in its entirety (Pope, Ziebland, & Mays, 2000). The remaining interviews were fully transcribed verbatim by a professional transcription service. The interview transcripts were initially coded using line-by-line coding, a process of fragmenting the data with words that reflect action (Charmaz, 2014). This was followed by focused coding, a process of selecting the most frequent and significant initial codes (Charmaz, 2014). Analysis also involved the constant comparative method and memo writing (Appendix O), which consisted of meaning-making about the emerging codes, links between categories, and facilitated abstract thinking of these concepts (Charmaz, 2014). Preliminary focused codes and tentative theoretical categories emerged from the first two interview transcripts and guided the subsequent three interviews, in the form of theoretical sampling (Charmaz, 1990). Theoretical sampling can be defined as “seeking and collecting pertinent data to elaborate and refine categories in your emerging theory” (Charmaz, 2014, p. 192), until no new properties of categories emerge from the data, and therefore, reached theoretical saturation (Thornberg & Charmaz, 2011).

The three interview transcripts led to a more detailed understanding of the emerging categories. This second phase of data analysis was then repeated for three further interviews, which involved the adapted interview schedule (Appendix N). As analysis progressed, the focused codes were refined and raised as theoretical categories to explain the emerging theory. No new meaningful codes and categories were identified after the eighth interview had been analysed, thus it was established that theoretical saturation had been reached. One further participant was then interviewed to validate the resulting theory. Overall, 1,043 initial



codes (e.g., socioeconomic inequalities) and 148 focused codes (e.g., social issues) were identified, and then refined to 53 focused codes (e.g., social context). The focused codes were further refined and organised under six theoretical categories. See Appendix P for an excerpt of a coded interview transcript.

### **Enhancing Research Quality**

This study adhered to Charmaz's (2014) criteria for rigor in grounded theory research. A research diary was kept throughout the research process, enhancing reflexivity. This paper described the recruitment, interviews, and analytic procedures, as well as provided direct interview quotes and a researcher reflexive statement, enhancing the transparency of the study. Two coded interview transcripts were checked by research supervisors and peers, and supervision was used to reflect on and verify emerging categories and the developing theory, enhancing credibility of the analysis process and findings. This paper discussed the interpretation and implications of the findings, and recommendations for future research, enhancing the resonance and usefulness of the study's findings and conclusions.

### **Results**

The analysis of the interviews resulted in an adapted version of Kerr et al.'s (2000) CAT model of psychosis, comprising of six additional psychosocial processes (theoretical categories) reported to contribute towards participants' conceptual understanding of psychosis. These include: (1) individual and social context; (2) integrating attachment models; (3) core intolerable emotions in psychosis; (4) core defence mechanisms in psychosis; (5) influences from Bakhtinian dialogism; and (6) specificity of psychotic experiences. Figure 1 provides a visual representation of this revised CAT model for psychosis, including Kerr et al. (2000) (**black text**) and the aspects added as a consequence

of this study's findings (**blue text**). The next section discusses the six theoretical categories, and the relationships between them, with participants' quotes supporting the findings.

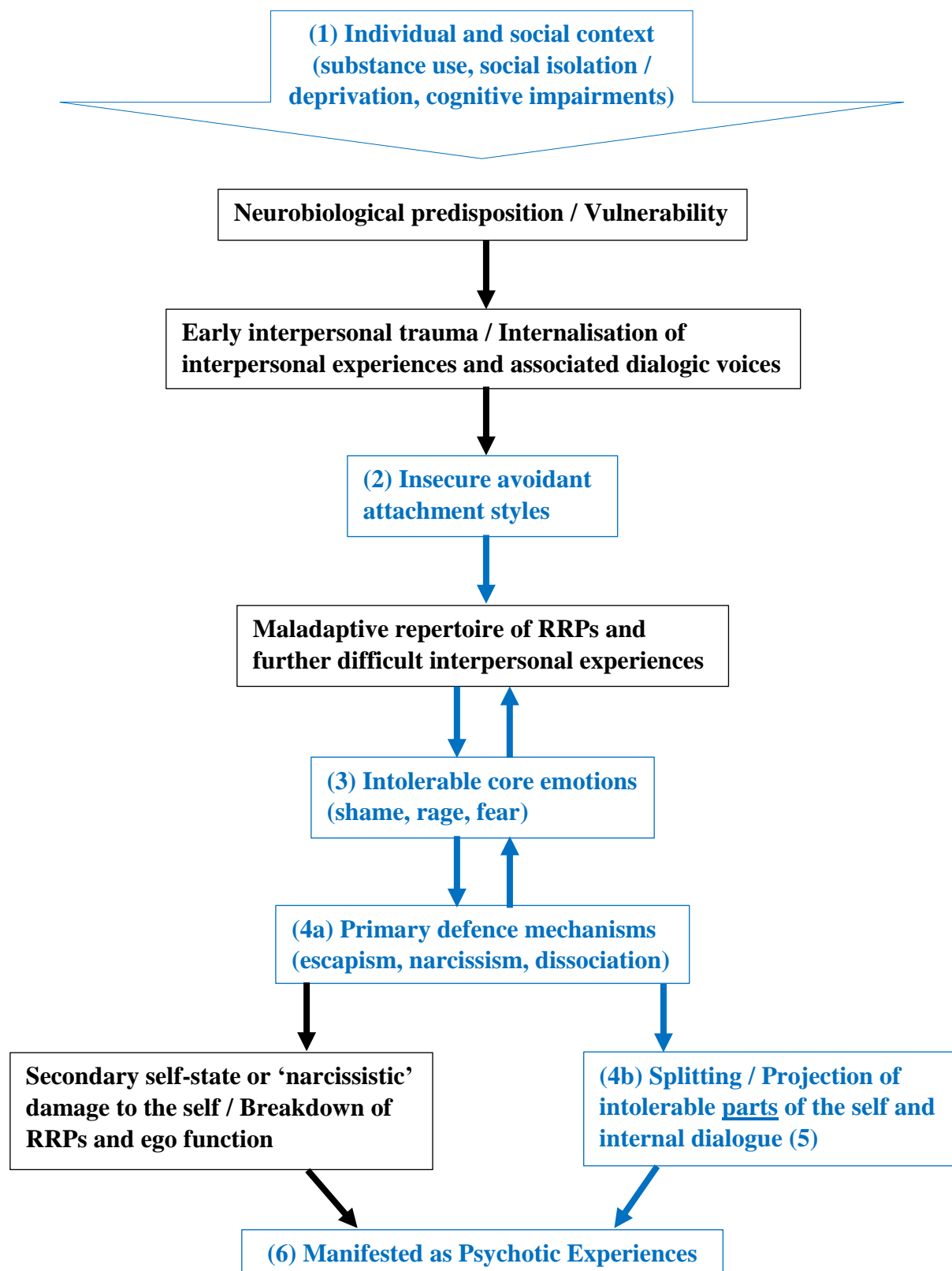


Figure 1. A revised theoretical model of CAT for psychosis.

## 1. Individual and Social Context

All participants described various individual and social factors which they believed to be influential towards an individual developing psychotic experiences. There were three distinct themes to participants' perspectives on contextual factors contributing to the emergence of psychosis. The first theme was around "not to underestimate how important substance misuse is in this population" (P6). Five of the participants explicitly stated that childhood trauma and/or substance misuse may cause some people to develop psychotic experiences. For example:

There are people that have gone through, you know, ridiculously awful, erm, neglectful lives. There are other people that, you know, there might be a loss or there's people that might have actually overindulged in recreational drugs. (P8)

Similarly, participant 1 also reported the triggering consequence of using drugs:

There have been some people who haven't necessarily had any trauma, who even went to university, and then became unwell. There wasn't any identified trigger and then they started using drugs, and that then escalated to the extent that they became unwell. (P1)

Alternatively, two of the participants saw substance misuse as a coping mechanism or symptom of emotional distress. For example:

Rather than kind of viewing it as just, you know, 'they take this substance because they're self-medicating' or whatever. We need to understand the use of substances as both relationships and enactments as well. I think if we can pull the whole picture together, that's really helpful...people can start to see that, actually, heroin's the soothing mother that they've never had. (P6)

The second theme that participants discussed about was around the connection between socio-economic inequalities and psychosis. Most participants believed that generally people

with experiences of psychosis tend to have less social support, and more housing and financial issues:

Predominantly the people I'm seeing aren't middle class, people living in nice houses with lovely great support around them. Actually they are low socio-economic status, often not working, probably because of how ill they are, on benefits and needing our help to complete those benefits. I think, more than any other client group, the level of isolation is so high. (P5)

Although tentative, some of the participants expanded further on why these social issues might have contributed to the development of psychotic experiences:

Perhaps when we haven't got a very populated external world, we end up with a very populated internal world instead...and that kind of brings me round to why people may hear voices. (P6)

This quote reflects the idea that social isolation could lead to the development of voice hearing. The third theme was explicitly present in five of the accounts. Participants discussed about the impact of stress on cognitive functioning, leading to specific impairments in memory, attention, and executive functioning:

Cognitions in psychosis are disrupted, so for example, memory and concentration are often blunted with marked impairment, and all the clients I've seen with psychosis have all suffered from memory impairment usually as a result of acute stress. (P3)  
...and thought disturbance, the cognitive, executive function, and decision-making difficulties in psychosis. (P9)

They also described their perceptions on the causal link between cognition and psychosis:

I think some level of cognitive dysfunction was before the psychosis. I think that this may have somewhat contributed to it... and clients cannot hold onto what's being said in a room because their internal voices in psychosis contaminate what is said. (P1)

Therefore, many participants believed that substance misuse, social isolation, and cognitive impairments are associated with psychosis. It appears though that most participants perceived these ‘issues’ as triggering the onset of a psychotic experience, and directly contributing to an individual’s vulnerability of developing psychosis.

## **2. Integrating Attachment Models**

It is unsurprising (given the general ubiquity of childhood adversity) that all participants believed that there is a strong connection between early traumatic experiences and the development of psychosis: “unfortunately it’s that sexual abuse, neglect, physical abuse as well, and that experience of poor attachments, that there’s just no stability” (P1). However, five of the participants explicitly stated that they believed that early trauma from a main caregiver/attachment figure can manifest into psychotic distress later in life:

I’ve seen how distress manifests itself over the years. People don’t typically hear distressing voices and have delusional beliefs and dissociate for no reason. So there’s usually something that’s gone on that’s been deeply upsetting and confusing, and distressing, and it’s usually by someone that’s meant to have been providing them with care and security, an attachment figure. (P2)

They expanded on their viewpoints by reporting that early trauma can lead to the formation of insecure attachment styles in childhood, in people who later develop psychosis. Two supporting quotes are provided here:

The evidence is that people with psychosis have had difficult early attachments and insecure attachment styles, with avoidant ways of coping. (P7)

and

I guess it made me a lot more aware of the role of traumatised attachment and not having a safe base, how it might fundamentally affect your view of yourself and the

world, and where you fit. So, possibly, just how damaged and deep a lot of people's problems go. (P5)

Participants' descriptions suggested that insecure or traumatised attachment can significantly affect individual's relationship with themselves, others, and the world. According to participant 9, the attachment theories can complement CAT models of psychosis: "I think the attachment literature offers a richness sometimes lacking in some of the CAT stuff, but obviously CAT has specificity that is lacking in attachment stuff." It appears that attachment theories and models have also been applied by other participants in the context of the practice of CAT for psychosis. For example:

It has made me think more about attachment issues, and I don't know what came first; my interest in wanting to do CAT because of the Katherine Berry literature on adult attachment styles in psychosis, or I've become more interested in that type of stuff because of CAT. (P2)

The attachment literature seems to have influenced most participants' understanding of psychosis, and the psychological processes associated with its development.

### **3. Core Intolerable Emotions in Psychosis**

Most participants reported their belief that the enactment of maladaptive reciprocal roles and procedures generally accompanied intolerable emotions or 'core pain':

With the reciprocal role dilemma's actually about, if I'm rejected or if I'm neglected, my core pain is unspeakable, then I dare not share or I cannot share or if I am then I will be shamed. (P3)

There were three specific core emotions that the participants believed to be pertinent to the emergence of psychotic experiences. The first theme was around "people are so full of

shame in psychosis, they are desperately trying to avoid feelings of shame” (P5). Participant 5 described a link between adverse relational experiences and the development of shame:

For some people it's that very cold high functioning, critical middle-class parenting and they feel like they're always failing. There's something wrong with them fundamentally. So the core emotion tends to be shame I think, and feeling cut off and different from the rest of the world. So that's the core pain. (P5)

Likewise, six other participants also acknowledged the connection between maladaptive relational patterns and the emergence of shameful feelings among people who develop psychotic experiences. This quote reflects this most clearly:

Critical to criticised role, or maybe more intense shamed-based version of that. So something that would leave someone feeling vilified or humiliated, I guess shame is often the sort of driver for psychosis. I mean a lot of these different feelings are hard to manage at times, but shame just seems to sort of really catch the core of human beings...I'm unacceptable, there's something bad and black within me. (P4)

The second theme was around the core emotion of 'rage,' present in four accounts.

Participants described that for some people, maladaptive reciprocal roles led to feelings of extreme anger or rage, which they were consciously unaware of:

Well the hardest ones are the rageful ones, where anger's hugely unacknowledged. So pleasing to pleased reciprocal role comes up a lot, and the counter to that is the kind of rageful, murderous self-states... It's the really angry ones that I find are really commonly split up, or very sad. So all the things we avoid against really. So those tend to be the core emotions that they push away and are unaware of. (P6)

The third theme was around the core emotion of 'fear.' Three of the participants explicitly reported that feelings of fear were not being expressed, leading to fear-based coping mechanisms and paranoia:

It's almost like 'I don't know who I am, I don't have a concept of who I am, so I've had this trauma and I've become a product of fear-based coping in relation to this trauma, and that's me.' The fear is stronger, so they're much more paranoid. They're not in touch with their core pain, which is this sad, terrified little person. (P5)

Generally, it appears that participants believed that their service users were avoiding and pushing away intense feelings of shame, rage, or fear, because they experienced these emotions as extremely uncomfortable and intolerable. The two arrows indicate that the intolerable emotions resulting from difficult interpersonal experiences may increase the likelihood of further social and relational problems.

#### **4. Core Defence Mechanisms in Psychosis**

##### **a. Primary defence mechanisms**

One of the richest theoretical categories in this analysis concerns the core defence mechanisms that play an important causal role in psychosis. All participants' accounts suggested that 'defence mechanisms' were a significant factor associated with the development of psychotic experiences. A number of core defence mechanisms were discussed in the interviews. For example, participant 5 conveyed a link between narcissism and shame in psychosis:

There's often a narcissistic flavour in psychosis. Especially with the young men, narcissism is a protection from shame. (P5)

While, participant 1 extended this notion by reporting using narcissistic models to understand grandiose positions:

He thought that sometimes he was a dwarf, and sometimes he was a giant, understanding this from a narcissistic model with him... often that lines with I think



extreme emotions or very often a narcissistic grandiose position, resulting in an inability to get into dialogue with the voices that are tormenting them. (P1)

Four participants talked about their service users creating fantasies and ways of escaping from intolerable emotions, which possibly triggered and maintained their psychotic experiences. Two examples to illustrate this finding are given here:

A lot of the people I've worked with have had a kind of fantasy, sort of magical place where something about the psychosis that they want to keep hold of, that they don't entirely want to be part of the 'real world.' For some people their psychosis is an escape or there's something to be gained in maintaining it. (P7)

and

Psychosis is so often about unimaginable feelings or finding yourself in a position that you can't tolerate being in, and so you need to bring a creative way of escaping from that perhaps. So something that is emotion filled, and the psychoanalytic work seems to kind of get to the heart of what is driving the psychosis. (P4)

However, all participants believed that dissociation was a common defence mechanism among people who develop psychotic experiences:

So dissociation is quite often in discussions because people are cut off from different parts of themselves or they're not joined up, or they become so overwhelmed so easily or they're just dissociated and cut off in some way. (P5)

Six of the participants elaborated on their understanding of dissociation using the concept of self-states, and identified a causal connection between dissociation and the development of psychotic experiences:

A lot of the people that you're working with in a psychosis population have high levels of dissociation. In fact, that's how I conceptualise a lot of psychotic

experiences, that actually it's a split off dissociated state. And you really can see it when you're watching somebody in the room, that there's a real state-shift. (P6)

The two arrows indicate that the defence mechanisms resulting from attempting to cope with intolerable emotions may contribute to a vicious spiral of increasing intolerable emotions, and then increasing the occurrence of the defence mechanisms.

### **b. Splitting and projection**

All participants believed that it's not the 'whole' self that becomes psychotic, it's just 'parts' of the self that become disowned and split off into psychotic experiences. According to the participants in this study, this process was critical in the formation of psychosis.

Perhaps in psychosis or some sort of personality disorder, it's more fractured so there's more of this kind of splitting, like dilemmas, either the world's cruel or it's magical and wonderful. It's the abusing bits themselves which is disowned and experienced as external. (P7)

Additionally, most participants explicitly mentioned applying Kerr et al.'s (2000) model in practice, but also reported expanding on this model through their understanding that parts of the self could be split off or projected elsewhere, and experienced as psychotic phenomena:

Kerr's model definitely makes sense to me for some of the work, but I think there's also more to it as well. I think sometimes you can have parts of yourself or parts of your experience that are difficult or intolerable, that becomes split off or you've come out of dialogue in some way, which then become manifested as psychotic experiences. But your ego is functioning quite well and is intact. (P4)

Furthermore, some participants elaborated on their understanding of 'intolerable parts of the self.' They reported that this could consist of internal dialogue:

Can aspects of that internal dialogue be split off and projected elsewhere, and then be related too in a sense of voices or understanding yourself and the environment. I think that's quite interesting. If I'm honest, I'd never adhere to any one way of understanding a person's experience, but that's a useful understanding to have. (P8)

## **5. Influences from Bakhtinian Dialogism**

Five of the participants believed that Bakhtinian concepts had a major influence on their understanding of the development of psychotic experiences:

I've really learned a lot with the dialogism. I've loved all of the Bakhtinian stuff, the idea of everything's ever moving, ever changing, how meaning is very much defined by conversation and reformulated in every dialogue, all of that. (P8)

Participants made sense of internal dialogue as comprising of multiple dialogic voices:

When I started researching this idea of Bakhtinian voicing or the psychotic voices; there is plurality of voices which a psychotic client could experience, and in many ways that fits better with a developmental theory of internal dialogue. (P1)

Therefore, not all dialogic voices become dissociated or psychotic, only the intolerable parts:

In psychosis, the challenge is that they can't tolerate the self-to-self relationship and the dialogic voicing. The dialogic voices actually conflict with identity. (P3)

Participant 4 expanded on the above viewpoint by suggesting that some voices within the dialogical self will be more powerful or speak with a louder voice than others:

Bakhtin has probably made quite a big influence on me... That idea of Bakhtinian polyphony, that there are lots of different voices within a person and within their wider network, and that some of those voices will have more power or valence at one particular point. (P4)

Participants believed that the CAT approach helps to normalise voice hearing and makes the experiences understandable and become manageable. For example, through discourse analysis of the multiple voices:

CAT offers a dialogic discourse analysis, which is actually useful to separate what is normal, what is abnormal, and what is a mix between normal dissociative dialogic voicing. (P3)

Additionally, through mapping out voices and parts of the self as reciprocal roles:

Bakhtin talking about ‘magistral voice’ seems to map perfectly onto seeing reciprocal roles as a way of mapping out voices and fragmented self-states. So CAT seems like the obvious model to me, to use, particularly for people who are hearing voices. (P7)

These quotes reflect the admiration in which Bakhtinian dialogism theory was held by the participants for its conceptualisation and application with voice hearing, as well as its influences on CAT models of psychosis.

## **6. Specificity of Psychotic Experiences**

All participants shared their understandings of the different psychotic experiences that they had come across during therapy sessions with service users experiencing psychosis.

Two themes emerged in the analysis, indicating some specificity in relation to the different psychotic experiences. The first theme was around maladaptive reciprocal roles. Most participants identified reciprocal roles of ‘watching’ and ‘judging’ as being connected to the experiences of paranoid delusions:

I had a young guy, so we were able to talk about his experience of paranoia and he said to call it paranoia, like being monitored, being watched, being...getting judged, and this was as well his understanding of what was happening at large. (P8)

Furthermore, participants identified reciprocal roles of ‘criticising’ and ‘controlling’ as being specifically related to the experiences of voice hearing:

Particularly they have dominant voices bossing them around and controlling them and telling them what to do and criticising them. They’ve probably had a lot of experience of that in their earlier life. (P7)

Participants believed that the content of reciprocal roles and psychotic experiences may closely resemble the service users’ personal experiences of childhood trauma. For example, participant 2 suggested that visual hallucinations may be enactments of early traumatic experiences, parallel to the content of voice hearing:

People have had attachment trauma as children. I would think about those experiences, that it’s about a threat system. Some visual hallucinations, they are clearly the abuser. So they are clearly from that person, or mimicking that person, or evoking the feeling. So they’re relational as well. (P2)

The second theme was around intolerable core emotions. Participants hypothesised links between different core emotions and the development of specific psychotic experiences. For example, feeling a sense of danger was suggested to be linked to paranoia, and shame or anger were suggested to be linked to voice hearing:

I guess a key aspect that makes it CAT for me is looking at unmet needs and unmanageable emotions. For example, paranoia is likely to link to feeling unsafe in other aspects of life; or voices might link to feelings, such as shame or anger, that are hard for the person to express. CAT would be about working on the relationship with these psychotic experiences. (P4)

## Discussion

### Summary of Main Findings

This study sought to further develop a preliminary CAT model of psychosis, based upon practitioner's reflections about their experiences of applying this model in clinical and research contexts. The aims of the study were to address: (i) How do CAT practitioners understand psychosis? (ii) How might CAT practitioners' experience of using CAT for psychosis help to develop Kerr et al.'s (2000) preliminary model? The interviews and analysis were guided by social constructivist approach to grounded theory (Charmaz, 2014). Six psychosocial processes, in addition to those stipulated by Kerr et al. (2000), emerged to be pertinent to the development of CAT practitioners' beliefs about their service users' psychotic experiences. Consistent with social constructionism, the final model represents an interpretation of nine participants' accounts of their experiences and perspectives, rather than as a representation of an objective reality.

The final model addresses the two research questions and can be summarised as follows. Participants expanded on Kerr et al.'s (2000) model by highlighting six additional psychosocial processes lying on the causal pathway between childhood trauma and psychosis. Participants believed that early interpersonal traumatic experiences from an attachment figure might be internalised as insecure avoidant attachment styles in childhood. This develops into enactments of maladaptive reciprocal roles and procedures throughout life. Further difficult interpersonal experiences, compounded by problematic contextual issues (substance misuse, social isolation/deprivation, and/or cognitive impairments), might lead to intolerable core emotions of shame, rage, and/or fear. These core emotions might in turn give rise to problematic contextual issues also.

As a consequence of this, participants suggested that for some people, as a means of self-protection and coping, core defence mechanisms such as narcissism or escapism might

be involuntarily and persistently used. Dissociation figured as a process upon which intolerable parts of the self and internal dialogue (dialogic voices) become split off or projected, and then manifested as psychotic experiences (voice hearing, delusions, and/or visual hallucinations). Participants understood paranoia as ‘watching’ and ‘judging’ reciprocal roles accompanied by threat, fear, or danger; and voice hearing as ‘criticising’ and ‘controlling’ reciprocal roles accompanied by shame or anger.

The final model provides a possible explanation of the link between early interpersonal trauma and developing psychosis, integrating attachment, neurological, psychoanalytic, and dialogic processes. The six additional psychosocial processes that underpin the final model are now discussed in relation to existing research and theoretical developments, and where it appears to support or provide a new or enhanced contribution to the literature. Finally, implications for clinical practice, methodological critique of the study, and suggestions for future research are discussed.

## **Comparison Between Present Findings and Past Research**

### **Individual and social context**

The present study highlighted participants’ views that substance misuse may directly trigger the onset of psychotic experiences without a link to early interpersonal trauma, potentially highlighting a direct causal pathway associated with substance-induced psychosis. These findings support existing research that have found that illicit drug use may lead to psychotic experiences (NICE, 2011), increasing research developments on neurotransmitters related to psychosis (Ham, Kim, Chung, & Im, 2017).

Findings from the current study also highlighted participants’ perspectives that some people may have a reciprocal role relationship with their substance use that mimics other difficult relationships, precipitating psychotic experiences in conjunction with other

psychosocial processes. This indicates that substance misuse might be a response to fluctuations in relationships, consistent with research on role of family systems in substance misuse (e.g., Saatcioglu, Erim, & Cakmak, 2006). Substance misuse as a causal risk factor for psychosis has been overlooked by recent psychological models of psychosis, thus the current findings provide a new contribution to existing models of psychosis.

This study's findings highlighted participants' views that exposure to socioeconomic deprivation, unemployment, and social isolation may increase the risk of developing interpersonal difficulties and psychotic experiences, which is consistent with previous research findings (Addington et al., 2014; Read, 2010; World Health Organisation, 2014) and psychological models of psychosis (e.g., Read & Gumley, 2008). Interestingly, the participants hypothesised that isolation from the external social world may instigate a populated internal world, resulting in voice hearing experiences. It is plausible that the emergence of hearing voices may arise to help reduce feelings of social isolation (Honig et al., 1998). Therefore, social isolation may be a specific vulnerability factor for developing voice hearing experiences, and this finding adds to the limited research on social isolation and psychosis (Lonergan, 2017).

The present study highlighted participants' beliefs that early trauma may impact on the developing brain structure, resulting in impairments in memory, attention, and/or executive functioning prior to developing psychosis. These cognitive impairments may then contribute to and exacerbate the psychotic experience. This is consistent with robust findings from existing literature (Aas et al., 2014; Bradley et al., 2011; Pinkham & Penn, 2006; Reichenberg, 2005), and provides support for the traumagenic neurodevelopmental model of psychosis (Read et al., 2001; 2014), and biopsychosocial conceptualisations of psychosis (e.g., Read & Gumley, 2008).



While Kerr et al.'s (2000) model proposes that psychotic experiences may in part arise from misinterpretation of normal percepts due to underlying neurocognitive deficits (i.e. an independent causal factor), the final model enhances this theoretical understanding by offering a perspective of the different impaired cognitive domains that specifically manifest before the onset of psychosis, such as in memory, concentration, and executive functions. These marked impairments may affect the way some people express themselves and cope with adverse relational experiences, due to poor emotional processing and regulation, which are necessary for effective interpersonal functioning (Kimhy et al., 2012). Thus, the findings indicate that cognitive impairments may actually lie on the causal pathway to psychosis.

### **Integrating attachment models**

The current study highlighted that the participants' experiences and perspectives of working with psychosis using the CAT model were informed by attachment theory. The findings highlighted participants' views that early trauma involving an attachment figure can lead to the internalisation of insecure avoidant attachment styles, consistent with recent reviews (Carr et al., 2018; Korver-Nieberg, Berry, Meijer, & de Haan, 2014). This meant that the individuals were left more vulnerable to developing maladaptive relational patterns and avoidant ways of coping with distress, as evidenced by the final model. These findings provide a new contribution to Kerr et al.'s (2000) model by integrating an attachment perspective of psychosis with the CAT model of psychosis.

In comparison to existing attachment models of psychosis (e.g., Read & Gumley, 2008), this study's model differed in terms of the focus upon insecure avoidant attachment styles, rather than insecure disorganised attachment styles found to be also highly prevalent in psychosis (Harder, 2014). This may in part be due to the present study's small sample size of only nine participants' reflections upon applying CAT models to working with psychosis.

Additionally, this may also be partly due to the participants' emphasis on primitive defence mechanisms (such as splitting) as a critical process in the pathway to developing psychosis, which have been found to characterise the avoidant dimension of insecure attachment (Laczkovics et al., 2018; Prunas, Di Pierro, Huemer, & Tagini, 2017).

### **Core intolerable emotions in psychosis**

The current findings highlighted participants' views that the enactment of maladaptive reciprocal roles and procedures generally accompanied intolerable emotions of shame, rage, and/or fear. Furthermore, people who later experienced psychosis may have been unaware of or avoided being in touch with these core painful emotions (Ryle, 1995). These findings fit with the theoretical understanding that psychotic experiences are often characterised by a hypersensitivity to threat-based emotions, such as fear, anxiety, and anger (Freeman & Garety, 2003), leading to social avoidance and further interpersonal difficulties (Green & Phillips, 2004). In parallel to this study's findings, emerging research has considered shame as a causal factor in the onset of voice hearing experiences (McCarthy-Jones, 2017). Participants seemed to have conceptualised shame using a compassion-focused framework (Gumley, Braehler, Laithwaite, MacBeth, & Gilbert, 2010), highlighting a preference for integrating various therapeutic modalities when working with psychosis.

### **Core defence mechanisms in psychosis**

The present study highlighted participants' perspectives that unconscious use of defence mechanisms was a significant process on the causal pathway to developing psychotic experiences. This is consistent with psychoanalytic evidence of psychotic experiences functioning as creative ways of escaping from and a defence against intolerable aspects of reality (Baek, 2014; Firestone & Catlett, 1987; Klein, 1946; Martindale & Summers, 2013).

In contrast, cognitive models have asserted that psychosis does not serve as a defensive function, rather it is related to negative core beliefs about the self/world and anticipation of threat during interpersonal experiences (e.g., Freeman, Garety, Kuipers, Fowler, & Bebbington, 2002).

Nevertheless, the theoretical understanding that psychotic experiences serve a defensive function has a long history in the psychology literature (e.g., Freud, 1917). For instance, recent studies have postulated that paranoid delusions may serve as a defence against low self-esteem entering consciousness (Bentall, Corcoran, Howard, Blackwood, & Kinderman, 2001; Murphy, Bentall, Freeman, O'Rourke, & Hutton, 2018). This suggests a probable link between overwhelming negative emotions, defence mechanisms, and the manifestation of psychotic experiences. The current findings are also similar to existing research that suggests that narcissism might be a primary defence against shame, resulting in grandiose delusions (Zaslav, 1998).

The present findings support existing literature that claims that dissociation may serve as a strategy to avoid trauma-related intolerable emotions and result in the fragmentation of the self into 'parts' (Fuchs, 2007; Moskowitz & Corstens, 2007). Participants believed that dissociated 'parts' of the self can split off or project externally, and manifest as psychotic experiences. While this theoretical understanding has previously been applied to the development of voice hearing (e.g., Longden, Madill, & Waterman, 2012), the current findings suggested that splitting or projection of 'parts' of the self may also lead to experiencing paranoia, delusions, or visual hallucinations as external. However, such findings oppose some phenomenological studies that have found that several people report hearing voices both internally and externally (Humpston, 2014).

Nevertheless, the present findings verify the historical assumption that "splitting of complexes or the different psychic functions is one of the most important characteristics..."

of psychosis (Bleuler, 1911, p. 8). Interestingly, recent cognitive neuroscience findings have indicated that the construct of splitting may present as disrupted binding and synchronisation of neural activities in the brain (Bob, Pec, Mishara, Touskova, & Lysaker, 2016). This is in line with the final model which highlights cognitive impairments as influencing the emergence of psychosis. Collectively, the study's findings highlight participants' belief that defence mechanisms have an explicit role in forming psychotic experiences, offering a new contribution to Kerr et al.'s (2000) model, and emphasising the value of continuing to integrate and work with psychoanalytic concepts in the practice of CAT for psychosis.

### **Influences from Bakhtinian dialogism**

The current study showed that the participants' understandings of psychosis had been majorly influenced by Bakhtin's concepts (Bakhtin, 1984) and the dialogical self-theory (Hermans et al., 1992). The findings highlighted participants' views that the internalised dialogue consists of multiple dialogic voices, and only the intolerable internal dialogic voices may result in being split off or projected onto an external object i.e. disintegration of self-structures. This is consistent with previous findings in relation to voice hearing (e.g., Harvey et al., 2008) and paranoia (e.g., Tiernan, Tracey, & Shannon, 2014). Participants in this study perceived CAT as a helpful intervention for normalising and working with the internal and external dialogue. The Open Dialogue approach is one example of a clinical approach with secure roots in dialogism theories (Seikkula & Olson, 2003).

Emerging research has proposed that various factors may disrupt the dialogical self process, leading to disintegration of internal dialogue and psychotic experiences (Lysaker & Lysaker, 2008). These factors include impairments in executive functioning, emotional dysregulation, social isolation, avoidance coping, and misinterpretation of inner phenomena (Lysaker & Lysaker, 2001; 2002). The final model generated from the participants'

narratives incorporates specific recognition of the potential significance of neuropsychological functioning and defensive avoidance. Another important factor stated to contribute to the process of disintegration of the self is the sense of loss of agency, resulting in the emergence of voice hearing experiences (Gallagher & Zahavi, 2012).

The final model adds to the existing literature and Kerr et al.'s (2000) model by offering a dialogical perspective to current conceptualisations of psychosis that, whilst acknowledging biopsychosocial influences, overlook a micro analysis of the sense of self. For example, the cognitive model of psychosis (Garety et al., 2001) focuses on biases in cognitive appraisals that convert internal anomalous experiences into external psychotic phenomena. Although such models also consider adverse social environments as a vulnerability factor for psychosis, defence mechanisms and the dialogical self as primary constructs that can escalate the development of psychotic experiences have been overlooked.

### **Specificity of psychotic experiences**

The present findings highlighted participants' reflections on the specificity regarding different psychotic experiences and their relation to the content of maladaptive reciprocal roles and core pain. Some voice hearing experiences were understood by the participants to involve criticising, controlling, and dominating reciprocal roles; and intolerable feelings of shame or anger. This is consistent with an extensive range of case studies (e.g., Kerr et al., 2003; Perry, 2012; Woods, 2017). For instance, McCarthy-Jones (2017) established that employing avoidant strategies to deal with shame may lead to voice hearing through mediating processes, such as dissociation.

However, some paranoid delusional experiences were understood by the participants to involve monitoring, watching, and judging reciprocal roles; and intolerable feelings of danger and threat. Compared to the voice hearing literature, less studies have been published

on CAT for delusional experiences. Even so, the current finding supports existing ideas that delusional paranoia involves overwhelming feelings of fear and danger/threat (e.g., Bentall et al., 2001; Lake, 2008; Simões & Reis, 2015).

The present findings showed participants' beliefs that the content of voice hearing, delusions, and visual hallucinations may reflect enactments of early interpersonal traumatic experiences, echoing previous published case study findings (e.g., Prot-Klinger, 2016). However, according to Hardy et al.'s (2005) study, only 12.5% of participants experienced hallucinations with similar content to their interpersonal trauma. More recently, there seems to be a consensus that psychotic experiences may resemble a similar theme to childhood traumatic experiences, rather than similar content (Hardy & Mueser, 2017). It has been suggested that the psychotic experiences might contain meaningful clues to both the defence mechanisms in play and to the underlying internal world (Martindale & Summers, 2013).

### **Implications for Clinical Practice**

The revised model of CAT for psychosis proposed in this study highlights the importance of assessing early trauma, attachment style, interpersonal relationships, coping mechanisms, substance use history, and changes in cognitive functioning, to determine the individual's pathway to developing psychosis, and guide appropriate interventions. Furthermore, this proposed model highlights that clinicians consider the possible impact of poverty, social isolation, substance misuse, and cognitive difficulties on the service users' presentation, and adjust clinical practice where necessary to accommodate this context. For example, adapting therapy materials to fit abilities (Taylor et al., 2017).

The study's findings suggest that services could consider providing relational-based interventions (such as CAT) that specifically target insecure attachment styles and maladaptive relational patterns, to help service users understand their contribution to

developing and maintaining their psychotic distress. Additionally, the revised model proposed in this study highlights that clinicians using the CAT model could consider supporting service users in increasing their engagement in the external social world, containing any overwhelming emotions, and increasing awareness of underlying defence mechanisms, as these psychosocial processes have potential to trigger psychotic experiences.

Another implication of this study's proposed model is to consider supporting service users to connect their psychotic experiences to past trauma events, and to elicit the content and personal meanings behind these experiences, through developing a detailed psychological formulation that considers interpersonal, dialogic, and psychoanalytic processes (Summers & Martindale, 2013). As highlighted by the participants in this study, clinicians using the CAT model could consider providing a transdiagnostic and collaborative approach to help service users to increase and restore dialogue with the dissociated parts of the self that have split off or projected. Aquarone (2004) advocates that all parts of the self need to be accepted and related to in a coherent dialogue, for a healthy sense of self.

The above suggestions are tentative but may have potential to target the vulnerability factors highlighted in this study's final model, beyond the traditional focus on neurochemical and cognitive processes for treatment of delusional and hallucinatory experiences.

### **Recommendations for Future Research**

The present study has provided an adapted empirical model with which to structure ideas about future research. It could be valuable both theoretically and clinically to test the degree to which those factors suggested here as causal, actually are causal in the development of psychotic experiences, which can be undertaken using quantitative methods. Further research is needed to clarify the potential mediating roles of attachment styles, defence mechanisms, and dialogic processes that underlie the relationship between early interpersonal

trauma and psychosis via longitudinal designs. Further robust research is warranted to examine the efficacy of CAT as an intervention for voice hearing and delusional experiences, and explore the usefulness of relational-based therapies for interpersonal difficulties.

### **Methodological Critique**

This study has various strengths and limitations which should be acknowledged. The sample size of nine participants is small but adequate for grounded theory, and the principle of theoretical saturation was achieved (Charmaz, 2014). Participants were not selected based on their demographic information, rather they showed willingness to participate and were interviewed on a first-come first-served basis, indicating a likelihood of sampling bias (Guetterman, 2015). For example, participants from the clinical psychology profession were overrepresented in this sample, which may have biased the findings. It is likely that the participants were not a representative sample of the population of CAT practitioners, thus findings cannot be generalised to all CAT practitioners working with people experiencing psychotic experiences. Nevertheless, an explicit aim of the study was to develop a theoretical model of a CAT-based understanding of psychosis from CAT practitioners' perspectives, thus grounded theory was the appropriate choice of qualitative methodology for this purpose.

While it is advised that coding and analysis should occur concurrently with each individual interview in an iterative cycle (Charmaz, 2014; Sargeant, 2012), this was not always possible in this study due to convenience of undertaking interviews on the same day, as well as time constraints. Despite this, the researcher wrote a quick memo following each individual interview about emerging ideas and themes relevant to that interview. Charmaz (2011) asserts that "constructivist grounded theory treats earlier grounded theory strategies as flexible guidelines rather than rigid rules" (p. 168), and a flexible approach to data collection and analysis was adopted in this study. Additionally, this study enhanced rigor of the



findings by providing sufficient detail of the context of the research process, providing the researchers reflexive stance, and using discussions with peers and research supervisors to refine the paper (Shenton, 2004).

Another limitation in this study is the use of two different methods for conducting semi-structured interviews, which raises concerns around the validity and reliability of the data collection procedures (Noble & Smith, 2015). A third of the participants undertook interviews via Skype and some difficulties arose regarding availability of video and time lags in conversation. Nevertheless, this innovative method allowed geographic flexibility in this study (Redlich-Amirav & Higginbottom, 2014). Overall, the results of this study contribute to the very limited research in CAT.

## **Conclusion**

This study is the first to qualitatively explore CAT practitioners' reflections about their experiences of applying the CAT for psychosis model in clinical and research contexts. This was undertaken to determine if practitioners thought that the model was comprehensive enough, or whether additional aspects should be added. The final model provides a possible explanation of the link between early interpersonal trauma and psychosis, integrating attachment, neurological, psychoanalytic, and dialogic processes. In addition to the processes highlighted by Kerr et al. (2000), clinicians applying a CAT approach to psychosis should consider incorporating specific consideration of social context, attachment styles, underlying defence mechanisms, and increasing dialogue with intolerable parts of the self/psychotic experiences. Further research is warranted to clarify the roles of these psychosocial processes in the formation of psychosis, and the usefulness of CAT as an integrative, relational therapeutic modality for psychosis.

### References

- Aas, M., Dazzan, P., Mondelli, V., Melle, I., Murray, R. M., & Pariante, C. M. (2014). A systematic review of cognitive function in first-episode psychosis, including a discussion on childhood trauma, stress, and inflammation. *Frontiers in Psychiatry, 4*, 182. <https://doi.org/10.3389/fpsyt.2013.00182>
- Addington, J., Case, N., Saleem, M. M., Auther, A. M., Cornblatt, B. A., & Cadenhead, K. S. (2014). Substance use in clinical high risk for psychosis: A review of the literature. *Early Intervention in Psychiatry, 8*(2), 104-12. <https://doi.org/10.1111/eip.12100>
- Ainsworth, M. D. (1985). Patterns of attachment. *Clinical Psychologist, 38*(2), 27-29.
- Allan, G. (2003). A critique of using grounded theory as a research method. *Electronic Journal of Business Research Methods, 2*, 1-10.
- American Psychological Association. (2010). *Publication manual of the American psychological association* (6<sup>th</sup> ed.). Washington, DC: Author.
- Aquarone, R. (2004). Dissociation and power: A dialogue with voices. *Reformulation, Summer*, 15-19.
- Baek, S.-B. (2014). Psychopathology of social isolation. *Journal of Exercise Rehabilitation, 10*(3), 143-147. <https://doi.org/10.12965/jer.140132>
- Bakhtin, M. M. (1984) *Problems of Dostoevsky's poetics*. Minneapolis: University of Minnesota Press.
- Batory, A., Bąk, W., Oleś, P. K., & Puchalska-Wasył, M. (2010). The dialogical self: Research and applications. *Psychology of Language and Communication, 14*(1), 45-59. <https://doi.org/10.2478/v10057-010-0003-8>
- Beecher, B. (2009). The medical model, mental health practitioners, and individuals with schizophrenia and their families. *Journal of Social Work Practice, 23*(1), 9-20. <https://doi.org/10.1080/02650530902723282>

- Bentall, R. P., Corcoran, R., Howard, R., Blackwood, N., & Kinderman, P. (2001). Persecutory delusions: A review and theoretical integration. *Clinical Psychology Review, 21*(8), 1143-1192. [https://doi.org/10.1016/S0272-7358\(01\)00106-4](https://doi.org/10.1016/S0272-7358(01)00106-4)
- Berry, K., Barrowclough, C., & Wearden, A. (2008). Attachment theory: A framework for understanding symptoms and interpersonal relationships in psychosis. *Behaviour Research and Therapy, 46*(12), 1275-1282. <https://doi.org/10.1016/j.brat.2008.08.009>
- Birchwood, M., Shiers, D., & Smith, J. (2014). CBT for psychosis: Not a “quasi neuroleptic.” *British Journal of Psychiatry, 204*(6), 488. <https://doi.org/10.1192/bjp.204.6.488>
- Bleuler, E. (1911). *Dementia praecox or the group of schizophrenias*. New York: International Universities Press.
- Bob, P., Pec, O., Mishara, A. L., Touskova, T., & Lysaker, P. H. (2016). Conscious brain, metacognition and schizophrenia. *International Journal of Psychophysiology, 105*, 1-8. <https://doi.org/10.1016/j.ijpsycho.2016.05.003>
- Bradley, B., DeFife, J. A., Guarnaccia, C., Phifer, J., Fani, N., Ressler, K. J., & Westen, D. (2011). Emotion dysregulation and negative affect: Association with psychiatric symptoms. *The Journal of Clinical Psychiatry, 72*(5), 685-691. <https://doi.org/10.4088/JCP.10m06409blu>
- British Psychological Society. (2010). *Code of human research ethics*. Retrieved from [http://www.bps.org.uk/sites/default/files/documents/code\\_of\\_human\\_research\\_ethics.pdf](http://www.bps.org.uk/sites/default/files/documents/code_of_human_research_ethics.pdf)
- Brown, K. (2017). Psychosis from an attachment perspective. *British Journal of Psychotherapy, 33*(3), 365-387. <https://doi.org/10.1111/bjp.12306>
- Bryant, A., & Charmaz, K. (2010). *The SAGE handbook of grounded theory*. Sage Publications Ltd.

- Bucci, S., Berry, K., Barrowclough, C., & Haddock, G. (2016). Family interventions in psychosis: A review of the evidence and barriers to implementation. *Australian Psychologist, 51*(1), 62-68. <https://doi.org/10.1111/ap.12172>
- Calvert, R., & Kellett, S. (2014). Cognitive analytic therapy: A review of the outcome evidence base for treatment. *Psychology and Psychotherapy: Theory, Research and Practice, 87*(3), 253-277. <https://doi.org/10.1111/papt.12020>
- Carr, S. C., Hardy, A., & Fornells-Ambrojo, M. (2018). Relationship between attachment style and symptom severity across the psychosis spectrum: A meta-analysis. *Clinical Psychology Review, 59*, 145-158. <https://doi.org/10.1016/J.CPR.2017.12.001>
- Charmaz, K. (1990). Discovering chronic illness: Using grounded theory. *Social Science & Medicine, 30*(11), 1161-1172. [https://doi.org/10.1016/0277-9536\(90\)90256-R](https://doi.org/10.1016/0277-9536(90)90256-R)
- Charmaz, K. (2011). A constructivist grounded theory analysis of losing and regaining a valued self. In F. J. Wertz, K. Charmaz, L. J. McMullen, R. Josselson, R. Anderson & E. McSpadden (Eds.), *Five ways of doing qualitative analysis: Phenomenological psychology, grounded theory, discourse analysis, narrative research, and intuitive inquiry*. New York: Guilford.
- Charmaz, K. (2014). *Constructing grounded theory*. London: Sage Publications Ltd.
- Chien, W. T., Leung, S. F., Yeung, F. K., & Wong, W. K. (2013). Current approaches to treatments for schizophrenia spectrum disorders, part II: Psychosocial interventions and patient-focused perspectives in psychiatric care. *Neuropsychiatric Disease and Treatment, 9*, 1463-1481.
- Clarke, S., Thomas, P., & James, K. (2013). Cognitive analytic therapy for personality disorder: Randomised controlled trial. *British Journal of Psychiatry, 202*(2), 129-134. <https://doi.org/10.1192/bjp.bp.112.108670>

- Claxton, M., Onwumere, J., & Fornells-Ambrojo, M. (2017). Do family interventions improve outcomes in early psychosis? A systematic review and meta-analysis. *Frontiers in Psychology*, 8, 371. <https://doi.org/10.3389/fpsyg.2017.00371>
- Cole, E. R., Strauss, C., Fife-Schaw, C., & McCarthy-Jones, S. (2017). Echoes of others: A path analytic examination of an interpersonal-cognitive model of voice-related distress. *Psychology and Psychotherapy: Theory, Research and Practice*, 90, 617-632. <https://doi.org/10.1111/papt.12129>
- Corcoran, C., Walker, E., Huot, R., Mittal, V., Tessner, K., Kestler, L., & Malaspina, D. (2003). The stress cascade and schizophrenia: Etiology and onset. *Schizophrenia Bulletin*, 29(4), 671-692. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/14989406>
- Cutcliffe, J. R. (2003). Reconsidering reflexivity: Introducing the case for intellectual entrepreneurship. *Qualitative Health Research*, 13(1), 136-148. <https://doi.org/10.1177/1049732302239416>
- Davis, J., Eyre, H., Jacka, F. N., Dodd, S., Dean, O., McEwen, S., ... Berk, M. (2016). A review of vulnerability and risks for schizophrenia: Beyond the two hit hypothesis. *Neuroscience and Biobehavioral Reviews*, 65, 185-194. <https://doi.org/10.1016/j.neubiorev.2016.03.017>
- De Oliveira Moreira, J., & Drawin, C. R. (2015). Possible relation between psychosis and the unconscious: A review of the unconscious by Freud. *Frontiers in Psychology*, 6, 1001. <https://doi.org/10.3389/fpsyg.2015.01001>
- Deacon, B. J. (2013). The biomedical model of mental disorder: A critical analysis of its validity, utility, and effects on psychotherapy research. *Clinical Psychology Review*, 33, 846-861. <https://doi.org/10.1016/j.cpr.2012.09.007>

- Dixon, L. B., Holoshitz, Y., & Nossel, I. (2016). Treatment engagement of individuals experiencing mental illness: Review and update. *World Psychiatry: Official Journal of the World Psychiatric Association*, 15(1), 13-20. <https://doi.org/10.1002/wps.20306>
- Edwards, T., Macpherson, R., Commander, M., Meaden, A., & Kalidindi, S. (2016). Services for people with complex psychosis: Towards a new understanding. *BJPsych Bulletin*, 40(3), 156-161. <https://doi.org/10.1192/pb.bp.114.050278>
- Elahi, A., Perez Algorta, G., Varese, F., McIntyre, J. C., & Bentall, R. P. (2017). Do paranoid delusions exist on a continuum with subclinical paranoia? A multi-method taxometric study. *Schizophrenia Research*, 190, 77-81. <https://doi.org/10.1016/j.schres.2017.03.022>
- Evans, M., Kellett, S., Heyland, S., Hall, J., & Majid, S. (2017). Cognitive analytic therapy for bipolar disorder: A pilot randomized controlled trial. *Clinical Psychology & Psychotherapy*, 24(1), 22-35. <https://doi.org/10.1002/cpp.2065>
- Falchi, V. (2007). Using CAT in an assertive outreach team: A reflection on current issues. *Reformulation*, 28, 11-17.
- Firestone, R., & Catlett, J. (1987). *The fantasy bond: Structure of psychological defenses*. Santa Barbara, CA: Glendon Association.
- Freeman, D., & Garety, P. A. (2003). Connecting neurosis and psychosis: The direct influence of emotion on delusions and hallucinations. *Behaviour Research and Therapy*, 41(8), 923-947. [https://doi.org/10.1016/S0005-7967\(02\)00104-3](https://doi.org/10.1016/S0005-7967(02)00104-3)
- Freeman, D., Garety, P. A., Kuipers, E., Fowler, D., & Bebbington, P. E. (2002). A cognitive model of persecutory delusions. *British Journal of Clinical Psychology*, 41(4), 331-347. <https://doi.org/10.1348/014466502760387461>
- Freud, S. (1894). *The neuro-psychoses of defense*. London, UK: Hogarth Press.

- Freud, S. (1917). Mourning and melancholia. In J. Strachey (Ed.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 14, pp. 243-258). London, UK: Hogarth Press.
- Freud, S. (1940). *Splitting of the ego in the process of defense*. New York: W. W. Norton and Company.
- Fuchs, T. (2007). Fragmented selves: Temporality and identity in borderline personality disorder. *Psychopathology*, 40(6), 379-387. <https://doi.org/10.1159/000106468>
- Gaebel, W., & Zielasek, J. (2015). Focus on psychosis. *Dialogues in Clinical Neuroscience*, 17(1), 9-18.
- Gallagher, S., & Zahavi, D. (2012). *The phenomenological mind* (2<sup>nd</sup> ed.). New York: Routledge.
- Garety, P. A., Kuipers, E., Fowler, D., Freeman, D., & Bebbington, P. E. (2001). A cognitive model of the positive symptoms of psychosis. *Psychological Medicine*, 31(2), 189-195. <https://doi.org/10.1017/S0033291701003312>
- Gleeson, J. F. M., Chanen, A., Cotton, S. M., Pearce, T., Newman, B., & McCutcheon, L. (2012). Treating co-occurring first-episode psychosis and borderline personality: A pilot randomized controlled trial. *Early Intervention in Psychiatry*, 6(1), 21-29. <https://doi.org/10.1111/j.1751-7893.2011.00306.x>
- Graham, C., & Thavastoby, R. (1995). Dissociative psychosis: An atypical presentation and response to cognitive-analytic therapy. *Irish Journal of Psychological Medicine*, 12(3), 109-111. <https://doi.org/10.1017/S0790966700014555>
- Green, M. J., & Phillips, M. L. (2004). Social threat perception and the evolution of paranoia. *Neuroscience and Biobehavioral Reviews*, 28(3), 333-342. <https://doi.org/10.1016/j.neubiorev.2004.03.006>

- Guetterman, T. C. (2015). Descriptions of sampling practices within five approaches to qualitative research in education and the health sciences. *Forum: Qualitative Social Research, 16*(2), Art. 25. <http://nbn-resolving.de/urn:nbn:de:0114-fqs1502256>.
- Gumley, A., Braehler, C., Laithwaite, H., MacBeth, A., & Gilbert, P. (2010). A compassion focused model of recovery after psychosis. *International Journal of Cognitive Therapy, 3*(2), 186-201. <https://doi.org/10.1521/ijct.2010.3.2.186>
- Guy, A., Thomas, R., Stephenson, S., & Loewenthal, D. (2011). *NICE under scrutiny: The impact of the national institute for health and clinical excellence guidelines on the provision of psychotherapy in the UK*. UK Council for Psychotherapy. Retrieved from <http://www.easewellbeing.co.uk/downloads/nice%20report%20ukcp.pdf>
- Ham, S., Kim, T. K., Chung, S., & Im, H.-I. (2017). Drug abuse and psychosis: New insights into drug-induced psychosis. *Experimental Neurobiology, 26*(1), 11. <https://doi.org/10.5607/en.2017.26.1.11>
- Harder, S. (2014). Attachment in schizophrenia: Implications for research, prevention, and treatment. *Schizophrenia Bulletin, 40*(6), 1189-1193. <https://doi.org/10.1093/schbul/sbu133>
- Hardy, A., Fowler, D., Freeman, D., Smith, B., Steel, C., Evans, J., ... Dunn, G. (2005). Trauma and hallucinatory experience in psychosis. *Journal of Nervous and Mental Disease, 193*(8), 501-507. <https://doi.org/10.1016/j.cpc.2015.08.025>
- Hardy, K. V., & Mueser, K. T. (2017). Trauma, psychosis and posttraumatic stress disorder. *Frontiers in Psychiatry, 8*, 220. <https://doi.org/10.3389/fpsy.2017.00220>
- Harvey, S. B., Dean, K., Morgan, C., Walsh, E., Demjaha, A., Dazzan, P., ... Murray, R. M. (2008). Self-harm in first-episode psychosis. *British Journal of Psychiatry, 192*(3), 178-184. <https://doi.org/10.1192/bjp.bp.107.037192>



- Hayward, M., & Fuller, E. (2010). Relating therapy for people who hear voices: Perspectives from clients, family members, referrers and therapists. *Clinical Psychology and Psychotherapy*, 17(5), 363-373. <https://doi.org/10.1002/cpp.672>
- Hayward, M., Berry, K., & Ashton, A. (2011). Applying interpersonal theories to the understanding of and therapy for auditory hallucinations: A review of the literature and directions for further research. *Clinical Psychology Review*, 31(8), 1313-1323. <https://doi.org/10.1016/J.CPR.2011.09.001>
- Health and Care Professions Council. (2015). *Guidance on conduct and ethics for students*. Retrieved from <http://www.hpc-uk.org/assets/documents/10002c16guidanceonconductandethicsforstudents.pdf>
- Hemsley, D. R. (1993). A simple (or simplistic?) cognitive model for schizophrenia. *Behaviour Research and Therapy*, 31(7), 633-645. [https://doi.org/10.1016/0005-7967\(93\)90116-C](https://doi.org/10.1016/0005-7967(93)90116-C)
- Hermans, H. J., & Dimaggio, G. (2004). *The Dialogical Self in Psychotherapy*. New York: Brunner & Routledge. [https://doi.org/10.4324/9780203314616\\_chapter\\_1](https://doi.org/10.4324/9780203314616_chapter_1)
- Hermans, H. J., Kempen, H. J., & Van Loon, R. J. (1992). The dialogical self beyond: Individualism and rationalism. *American Psychologist*, 47(1), 23-33. <https://doi.org/10.1037/0003-066X.47.1.23>
- Honig, A., Romme, M. A. J., Ensink, B. J., Escher, S. D. M. A. C., Pennings, M. H. A., & Devries, M. W. (1998). Auditory hallucinations: A comparison between patients and nonpatients. *Journal of Nervous and Mental Disease*, 186(10), 646-651. <https://doi.org/10.1097/00005053-199810000-00009>
- Horowitz, R. (2002). Psychotherapy and schizophrenia: The mirror of countertransference. *Clinical Social Work Journal*, 30, 235-244.

- Humpston, C. S. (2014). Perplexity and meaning: Toward a phenomenological “core” of psychotic experiences. *Schizophrenia Bulletin*, 40(2), 240-243.  
<https://doi.org/10.1093/schbul/sbt074>
- Johnstone, L., & Dallos, R. (2006). *Formulation in psychology and psychotherapy: Making sense of people's problems*. London: Routledge.
- Kellett, S. (2012). Cognitive analytic therapy. In C. Feltham & I. Horton (Eds.), *The SAGE handbook of counselling and psychotherapy* (pp. 343-350). London: Sage Publications Ltd.
- Kerr, I. B. (2001). Brief cognitive analytic therapy for post-acute manic psychosis on a psychiatric intensive care unit. *Clinical Psychology & Psychotherapy*, 8(2), 117-129.  
<https://doi.org/10.1002/cpp.251>
- Kerr, I. B., Beard, H., Crowley, V., & Simpson, I. (2000). Cognitive analytic therapy (CAT) - based approaches to psychotic disorders: A preliminary model. *Acta Psychiatrica Scandinavica*, 102(Suppl. 404), 6-7.
- Kerr, I. B., Birkett, P. B. L. & Chanen, A. (2003). Clinical and service implications of a cognitive analytic therapy model of psychosis. *Australian and New Zealand Journal of Psychiatry*, 37(5), 515-523.
- Kerr, I. B., Crowley, V., & Beard, H. (2006). A cognitive analytic therapy-based approach to psychotic disorder. In J. O. Johannessen, B. V. Martindale & J. Cullberg (Eds.), *Evolving psychosis*. London: ISPS Publications.
- Kimhy, D., Vakhrusheva, J., Jobson-Ahmed, L., Tarrier, N., Malaspina, D., & Gross, J. J. (2012). Emotion awareness and regulation in individuals with schizophrenia: Implications for social functioning. *Psychiatry Research*, 200(2-3), 193-201.  
<https://doi.org/10.1016/j.psychres.2012.05.029>

- Klein, M. (1946). Notes on some schizoid mechanisms. *International Journal of Psycho-Analysis*, 27, 99-110.
- Knapp, M., Mangalore, R., & Simon, J. (2004). The global costs of schizophrenia. *Schizophrenia Bulletin*, 30(2), 279-293.
- Korver-Nieber, N. (2014). *Attachment and psychosis* (PhD thesis). University of Amsterdam. Retrieved from [https://pure.uva.nl/ws/files/2057250/141970\\_04.pdf](https://pure.uva.nl/ws/files/2057250/141970_04.pdf)
- Korver-Nieberg, N., Berry, K., Meijer, C. J., & De Haan, L. (2014). Adult attachment and psychotic phenomenology in clinical and non-clinical samples: A systematic review. *Psychology and Psychotherapy: Theory, Research and Practice*, 87(2), 127-154. <https://doi.org/10.1111/papt.12010>
- Krabbendam, L., Myin-Germeys, I., Hanssen, M., Graaf, R., Vollebergh, W., Bak, M., & Os, J. (2005). Development of depressed mood predicts onset of psychotic disorder in individuals who report hallucinatory experiences. *British Journal of Clinical Psychology*, 44(1), 113-125. <https://doi.org/10.1348/014466504X19767>
- Kroll, J. L. (2007). New directions in the conceptualization of psychotic disorders. *Current Opinion in Psychiatry*, 20(6), 573-577. <https://doi.org/10.1097/YCO.0b013e3282f08759>
- Laczkovics, C., Fonzo, G., Bendixsen, B., Shpigel, E., Lee, I., Skala, K., ... Huemer, J. (2018). Defense mechanism is predicted by attachment and mediates the maladaptive influence of insecure attachment on adolescent mental health. *Current Psychology*, 1-9. <https://doi.org/10.1007/s12144-018-9839-1>
- Lake, C. R. (2008). Hypothesis: Grandiosity and guilt cause paranoia; paranoid schizophrenia is a psychotic mood disorder; a review. *Schizophrenia Bulletin*, 34(6), 1151-1162. <https://doi.org/10.1093/schbul/sbm132>
- Lawrie, S. M. (2016). Whether psychosis is best conceptualized as a continuum or in categories is an empirical, practical and political question. *World Psychiatry: Official*

*Journal of the World Psychiatric Association (WPA)*, 15(2), 125-126.

<https://doi.org/10.1002/wps.20325>

Lawrie, S. M., Hall, J., McIntosh, A. M., Owens, D. G. C., & Johnstone, E. C. (2010). The “continuum of psychosis”: Scientifically unproven and clinically impractical. *British Journal of Psychiatry*, 197(6), 423-425. <https://doi.org/10.1192/bjp.bp.109.072827>

Lincoln, T. M., Arens, E., Berger, C., & Rief, W. (2008). Can anti-stigma campaigns be improved? A test of the impact of biogenetic vs psychosocial causal explanations on implicit and explicit attitudes to schizophrenia. *Schizophrenia Bulletin*, 34(5), 984-994. <https://doi.org/10.1093/schbul/sbm131>

Lonergan, A. (2017). The meaning of voices in understanding and treating psychosis: Moving towards intervention informed by collaborative formulation. *Europe's Journal of Psychology*, 13(2), 352-365. <https://doi.org/10.5964/ejop.v13i2.1199>

Longden, E., Madill, A., & Waterman, M. G. (2012). Dissociation, trauma, and the role of lived experience: Toward a new conceptualization of voice hearing. *Psychological Bulletin*, 138(1), 28-76. <https://doi.org/10.1037/a0025995>

Longden, E., Sampson, M., & Read, J. (2016). Childhood adversity and psychosis: Generalised or specific effects? *Epidemiology and Psychiatric Sciences*, 25(4), 349-359. <https://doi.org/10.1017/S204579601500044X>

Lysaker, P. H., & Lysaker, J. T. (2001). Psychosis and the disintegration of dialogical self-structure: Problems posed by schizophrenia for the maintenance of dialogue. *The British Journal of Medical Psychology*, 74(1), 23-33. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11314900>

Lysaker, P. H., & Lysaker, J. T. (2002). Narrative structure in psychosis: Schizophrenia and disruptions in the dialogical self. *Theory & Psychology*, 12(2), 207-220. <https://doi.org/10.1177/0959354302012002630>

- Lysaker, P. H., & Lysaker, J. T. (2008). *Schizophrenia and the fate of the self*. Oxford, UK: Oxford University Press.
- Margison, F. (2005). Integrating approaches to psychotherapy in psychosis. *Australian and New Zealand Journal of Psychiatry*, 39(11-12), 972-981. <https://doi.org/10.1111/j.1440-1614.2005.01715.x>
- Martindale, B., & Summers, A. (2013). The psychodynamics of psychosis. *Advances in Psychiatric Treatment*, 19(2), 124-131. <https://doi.org/10.1192/apt.bp.111.009126>
- McCarthy-Jones, S. (2017). Is shame hallucinogenic? *Frontiers in Psychology*, 8, 1310. <https://doi.org/10.3389/fpsyg.2017.01310>
- McKenna, P., & Kingdon, D. (2014). Has cognitive behavioural therapy for psychosis been oversold? *BMJ (Clinical Research Ed.)*, 348, g2295. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/24668904>
- McLeod, J. (2010). *Case study research in counselling and psychotherapy*. London: Sage Publications Ltd.
- Mehl, S., Werner, D., & Lincoln, T. M. (2015). Does cognitive behavior therapy for psychosis (CBTp) show a sustainable effect on delusions? A meta-analysis. *Frontiers in Psychology*, 6, 1450. <https://doi.org/10.3389/fpsyg.2015.01450>
- Mitzman, S., & Duignan, I. (1993). One man's group: Brief cognitive-analytic group therapy and the use of sequential diagrammatic reformulation. *Counselling Psychology Quarterly*, 6(3), 183-192. <https://doi.org/10.1080/09515079308254113>
- Moritz, S., Pfuhl, G., Lüdtkke, T., Menon, M., Balzan, R. P., & Andreou, C. (2017). A two-stage cognitive theory of the positive symptoms of psychosis. Highlighting the role of lowered decision thresholds. *Journal of Behavior Therapy and Experimental Psychiatry*, 56, 12-20. <https://doi.org/10.1016/j.jbtep.2016.07.004>

- Morrison, A. P. (2001). The interpretation of intrusions in psychosis: An integrative cognitive approach to hallucinations and delusions. *Behavioural and Cognitive Psychotherapy*, 29(3). <https://doi.org/10.1017/S1352465801003010>
- Moskowitz, A., & Corstens, D. (2008). Auditory hallucinations: Psychotic symptom or dissociative experience? *Journal of Psychological Trauma*, 6(2-3), 35-63. [https://doi.org/10.1300/J513v06n02\\_04](https://doi.org/10.1300/J513v06n02_04)
- Murphy, P., Bentall, R. P., Freeman, D., O'Rourke, S., & Hutton, P. (2018). The “paranoia-as-defence” model of persecutory delusions: A systematic review and meta-analysis. *The Lancet Psychiatry*, 5(11), 913-929. [https://doi.org/10.1016/S2215-0366\(18\)30339-0](https://doi.org/10.1016/S2215-0366(18)30339-0)
- National Institute for Health and Care Excellence. (2011). *Coexisting severe mental illness (psychosis) and substance misuse: Assessment and management in healthcare settings*. Retrieved from <https://www.nice.org.uk/guidance/cg120>
- National Institute for Health and Care Excellence. (2014). *Psychosis and schizophrenia in adults: Prevention and management*. Retrieved from <https://www.nice.org.uk/guidance/cg178/resources/psychosis-and-schizophrenia-in-adults-prevention-and-management-35109758952133>
- Nayani, T. H., & David, A. S. (1996). The auditory hallucination: A phenomenological survey. *Psychological Medicine*, 26(1), 177-189. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/8643757>
- Nesari, A. J. (2015). Dialogism versus monologism: A Bakhtinian approach to teaching. *Procedia - Social and Behavioral Sciences*, 205, 642-647. <https://doi.org/10.1016/j.sbspro.2015.09.101>
- NHS England. (2016). *Implementing the early intervention in psychosis access and waiting time standard: Guidance*, 57. Retrieved from

<https://www.england.nhs.uk/mentalhealth/wp-content/uploads/sites/29/2016/04/eip-guidance.pdf>

Noble, H., & Smith, J. (2015). Issues of validity and reliability in qualitative research.

*Evidence-Based Nursing*, 18(2), 34-35. <https://doi.org/10.1136/eb-2015-102054>

O'Connor, K. (2009). Cognitive and meta-cognitive dimensions of psychoses. *The Canadian Journal of Psychiatry*, 54(3), 152-159.

Pérez-Álvarez, M., García-Montes, J. M., Perona-Garcelán, S., & Vallina-Fernández, O.

(2008). Changing relationship with voices: New therapeutic perspectives for treating hallucinations. *Clinical Psychology and Psychotherapy*, 15(2), 75-85.

<https://doi.org/10.1002/cpp.563>

Perry, A. (2012). CAT with people who hear distressing voices. *Reformulation*, 38, 16-22.

Phiri, P., Rathod, S., Carr, H., & Kingdon, D. (2017). A brief review of key models in cognitive behaviour therapy for psychosis. *Acta Psychopathologica*, 3(6), 84.

<https://doi.org/10.4172/2469-6676.100156>

Pinkham, A. E., & Penn, D. L. (2006). Neurocognitive and social cognitive predictors of interpersonal skill in schizophrenia. *Psychiatry Research*, 143(2-3), 167-178.

<https://doi.org/10.1016/j.psychres.2005.09.005>

Pollock, P. H., Broadbent, M., Clarke, S., Dorrian, A., & Ryle, A. (2001). Assessment the personality structure questionnaire (PSQ): A measure of the multiple self-states model of identity disturbance in cognitive analytic therapy. *Clinical Psychology and Psychotherapy*, 8, 59-72.

Pope, C., Ziebland, S., & Mays, N. (2000). Qualitative research in health care: Analysing qualitative data. *BMJ*, 320(7227), 114-116.

- Prot-Klinger, K. (2016). Difficulties in diagnosing psychotic patients with traumatic experiences. Why don't we hear what our patients say? *Psychosis*, 8(3), 260-269. <https://doi.org/10.1080/17522439.2015.1131325>
- Prunas, A., Di Pierro, R., Huemer, J., & Tagini, A. (2017). Defense mechanisms, remembered parental caregiving, and adult attachment style. *Psychoanalytic Psychology*. <https://doi.org/10.1037/pap0000158>
- Ratcliffe, M. (2015). The interpersonal world of psychosis. *World Psychiatry: Official Journal of the World Psychiatric Association*, 14(2), 176-178. <https://doi.org/10.1002/wps.20208>
- Read, J. (2010). Can poverty drive you mad? "Schizophrenia" socio-economic status and the case for primary prevention. *New Zealand Journal of Psychology*, 39(2), 7-19.
- Read, J., & Gumley, A. (2008). Can attachment theory help explain the relationship between childhood adversity and psychosis? *Attachment: New directions in psychotherapy and relational psychoanalysis*, 2(1), 1-35.
- Read, J., Fosse, R., Moskowitz, A., & Perry, B. (2014). The traumagenic neurodevelopmental model of psychosis revisited. *Neuropsychiatry*, 4(1), 65-79. <https://doi.org/10.2217/npv.13.89>
- Read, J., Perry, B. D., Moskowitz, A., & Connolly, J. (2001). The contribution of early traumatic events to schizophrenia in some patients: A traumagenic neurodevelopmental model. *Psychiatry*, 64(4), 319-345. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/11822210>
- Redlich-Amirav, D., & Higginbottom, G. (2014). New emerging technologies in qualitative research. *The Qualitative Report*, 19(26), 1-14.
- Reichenberg, A. (2005). Cognitive impairment as a risk factor for psychosis. *Dialogues in Clinical Neuroscience*, 7(1), 31-38. <https://doi.org/10.1038/nrrol.2011.199>



Robson, G., & Mason, O. (2015). Interpersonal processes and attachment in voice-hearers.

*Behavioural and Cognitive Psychotherapy*, 43(6), 655-668.

<https://doi.org/10.1017/S1352465814000125>

Roth A. D., & Pilling S. (2014). *Cognitive analytic therapy (CAT) for individuals with personality disorder*. Retrieved from [http://www.ucl.ac.uk/clinical-](http://www.ucl.ac.uk/clinical-psychology/competency-maps/pd-framework/Specific%20psychological%20interventions/Cognitive%20Analytic%20Therapy%20for%20webpage.pdf)

[psychology/competency-maps/pd-](http://www.ucl.ac.uk/clinical-psychology/competency-maps/pd-framework/Specific%20psychological%20interventions/Cognitive%20Analytic%20Therapy%20for%20webpage.pdf)

[framework/Specific%20psychological%20interventions/Cognitive%20Analytic%20Therapy%20for%20webpage.pdf](http://www.ucl.ac.uk/clinical-psychology/competency-maps/pd-framework/Specific%20psychological%20interventions/Cognitive%20Analytic%20Therapy%20for%20webpage.pdf)

Rudnick, A., & Lundberg, E. (2012). The stress-vulnerability model of schizophrenia: A conceptual analysis and selective review. *Current Psychiatry Reviews*, 8(4), 337-341.

<https://doi.org/10.2174/157340012803520450>

Ryle, A. (1985). Cognitive theory, object relations and the self. *British Journal of Medical Psychology*, 58, 1-7.

Ryle, A. (1990). *Cognitive analytic therapy: Active participation in change*. Chichester: John Wiley & Sons.

Ryle, A. (1995). *Wiley series in psychotherapy and counselling. Cognitive Analytic Therapy: Developments in theory and practice*. Oxford: John Wiley & Sons.

Ryle, A. (1997). The structure and development of borderline personality disorder: A proposed model. *The British Journal of Psychiatry*, 170, 82-87.

Ryle, A. (2003). History and use of the SDR. *Reformulation*, 20, 18-21.

Ryle, A. (2012). Critique of CBT and CAT. In E. W. McCormick (Ed.), *Change for the better* (4<sup>th</sup> ed., pp. 1-8). New York: Sage Publications Ltd.

Ryle, A., & Kerr, I. B. (2002). *Introducing cognitive analytic therapy: Principles and practice*. Oxford: Wiley-Blackwell.

- Saatcioglu, O., Erim, R., & Cakmak, D. (2006). Role of family in alcohol and substance abuse. *Psychiatry and Clinical Neurosciences*, 60(2), 125-132.  
<https://doi.org/10.1111/j.1440-1819.2006.01476.x>
- Sargeant, J. (2012). Qualitative research part ii: Participants, analysis, and quality assurance. *Journal of Graduate Medical Education*, 4(1), 1-3. <https://doi.org/10.4300/JGME-D-11-00307.1>
- Seikkula, J., & Olson, M. E. (2003). The open dialogue approach to acute psychosis: Its poetics and micropolitics. *Family Process*, 42(3), 403-418.  
<https://doi.org/10.1111/j.1545-5300.2003.00403.x>
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22, 63-75.
- Simões, S., & Reis, J. (2015). From paranoia to delusional disorder: Review based in a clinical case. *European Psychiatry*, 30, 1864. [https://doi.org/10.1016/S0924-9338\(15\)31428-0](https://doi.org/10.1016/S0924-9338(15)31428-0)
- Stain, H. J., Brønnick, K., Hegelstad, W. T. V., Joa, I., Johannessen, J. O., Langeveld, J., ... Larsen, T. K. (2014). Impact of interpersonal trauma on the social functioning of adults with first-episode psychosis. *Schizophrenia Bulletin*, 40(6), 1491-1498.  
<https://doi.org/10.1093/schbul/sbt166>
- Stip, E., & Letourneau, G. (2009). Psychotic symptoms as a continuum between normality and pathology. *The Canadian Journal of Psychiatry*, 54(3), 140-151.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2<sup>nd</sup> ed.). Thousand Oaks, US: Sage Publications Ltd.
- Summers, A., & Martindale, B. (2013). Using psychodynamic principles in formulation in everyday practice. *Advances in Psychiatric Treatment*, 19(3), 203-211.  
<https://doi.org/10.1192/apt.bp.112.010181>

Sun, P., Alvarez-Jimenez, M., Simpson, K., Lawrence, K., Peach, N., & Bendall, S. (2018).

Does dissociation mediate the relationship between childhood trauma and hallucinations, delusions in first episode psychosis? *Comprehensive Psychiatry*, 84, 68-74.

<https://doi.org/10.1016/j.comppsy.2018.04.004>

Taplin, K. A. (2015). *Service user experiences of the sequential diagrammatic reformulation*

*(SDR) in cognitive analytical therapy (CAT): An interpretative phenomenological*

(Doctoral dissertation). Retrieved from

[https://livrepository.liverpool.ac.uk/2031479/1/TaplinKim\\_June2015\\_2030301.pdf](https://livrepository.liverpool.ac.uk/2031479/1/TaplinKim_June2015_2030301.pdf)

Taylor, P. J., Jones, S., Huntley, C. D., & Seddon, C. (2017). What are the key elements of

cognitive analytic therapy for psychosis? A Delphi study. *Psychology and*

*Psychotherapy: Theory, Research and Practice*, 90(4), 511-529.

<https://doi.org/10.1111/papt.12119>

Taylor, P. J., Perry, A., Hutton, P., Seddon, C., & Tan, R. (2015). Curiosity and the CAT:

Considering cognitive analytic therapy as an intervention for psychosis. *Psychosis*, 7(3),

276-278. <https://doi.org/10.1080/17522439.2014.956785>

Thomas, N. (2015). What's really wrong with cognitive behavioral therapy for psychosis?

*Frontiers in Psychology*, 6, 323. <https://doi.org/10.3389/fpsyg.2015.00323>

Thornberg, R. & Charmaz, K. (2011). Grounded theory. In S. Lapan, M. Quartaroli, F.

Riemer (Eds.), *Qualitative research: An introduction to methods and designs*. San

Francisco: Jossey-Bass.

Tiernan, B., Tracey, R., & Shannon, C. (2014). Paranoia and self-concepts in psychosis: A

systematic review of the literature. *Psychiatry Research*, 216(3), 303-313.

<https://doi.org/10.1016/j.psychres.2014.02.003>

- Tracy, D. K., & Shergill, S. S. (2013). Mechanisms underlying auditory hallucinations- understanding perception without stimulus. *Brain Sciences*, 3(2), 642-669.  
<https://doi.org/10.3390/brainsci3020642>
- Van der Gaag, M., Valmaggia, L. R., & Smit, F. (2014). The effects of individually tailored formulation-based cognitive behavioural therapy in auditory hallucinations and delusions: A meta-analysis. *Schizophrenia Research*, 156(1), 30-37.  
<https://doi.org/10.1016/j.schres.2014.03.016>
- Vygotsky, L. S. (1962). *Thought and Language*. Cambridge, MA: MIT Press.
- Walker, E., Mittal, V., & Tessner, K. (2008). Stress and the hypothalamic pituitary adrenal axis in the developmental course of schizophrenia. *Annual Review of Clinical Psychology*, 4(1), 189-216. <https://doi.org/10.1146/annurev.clinpsy.4.022007.141248>
- Willemsen, J., Della Rosa, E., & Kegerreis, S. (2017). Clinical case studies in psychoanalytic and psychodynamic treatment. *Frontiers in Psychology*, 8, 108.  
<https://doi.org/10.3389/fpsyg.2017.00108>
- Woods, A. (2017). On shame and voice-hearing. *Medical Humanities*, 43(4), 251-256.  
<https://doi.org/10.1136/medhum-2016-011167>
- World Health Organisation. (2014). *Social determinants of mental health*. Retrieved from [http://apps.who.int/iris/bitstream/handle/10665/112828/9789241506809\\_eng.pdf?sequence=1](http://apps.who.int/iris/bitstream/handle/10665/112828/9789241506809_eng.pdf?sequence=1)
- Yank, G. R., Bentley, K. J., & Hargrove, D. S. (1993). The vulnerability-stress model of schizophrenia: Advances in psychosocial treatment. *American Journal of Orthopsychiatry*, 63(1), 55-69. <https://doi.org/10.1037/h0079401>
- Zappia, S., Montemagni, C., Macrì, A., Sandei, L., Sigaudò, M., & Rocca, P. (2012). Coping styles in schizophrenia: Study of clinical and functional variables as determinants of

strategies to cope with stress. *Rivista Di Psichiatria*, 47(3), 238-245.

<https://doi.org/10.1708/1128.12447>

Zaslav, M. R. (1998). Shame-related states of mind in psychotherapy. *The Journal of Psychotherapy Practice and Research*, 7(2), 154-166.

Zubin, J., & Spring, B. (1977). Vulnerability: A new view of schizophrenia. *Journal of Abnormal Psychology*, 86(2), 103-126. <https://doi.org/10.1037/0021-843X.86.2.103>

## Appendix A

Author Guidelines for the *Clinical Psychology Review*

## CLINICAL PSYCHOLOGY REVIEW

## AUTHOR INFORMATION PACK

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ISSN: 0272-7358

## DESCRIPTION

*Clinical Psychology Review* publishes substantive reviews of topics germane to **clinical psychology**. Papers cover diverse issues including: psychopathology, psychotherapy, behavior therapy, cognition and cognitive therapies, behavioral medicine, community mental health, assessment, and child development. Papers should be cutting edge and advance the science and/or practice of clinical psychology.

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Psychologists and Clinicians in Psychopathy

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**Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible. **Note: The title page should be the first page of the manuscript document indicating the author's names and affiliations and the corresponding author's complete contact information.**

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## Appendix B

## Standardised Data Extraction Form

		Study Characteristics				Participant Characteristics						Outcome Measures										
Author (year)	Journal	Location	Funding	Design	Clinical Sample	Sample Groups	n	Age Range	Mean Age (SD)	Age	Gender % male (n)	Diagnostic Method	Psychotic Symptoms	Childhood Adversity	Premorbid Social Functioning	Current Social Functioning	Other Measures	Confounding Variables	Primary Findings			
Alameda et al (2015)	Psychological Medicine	Switzerland	Swiss National Science Foundation	Prospective study, fup 36 months treatment	Early Psychosis	Total Non-SPA Early SPA (up to 11y) Late SPA (12-16y)	225 169 41 15	18-35	23.94 (0.32) 23.63 (0.36) 24.76 (0.7) 25.07 (1.48)		70.27 (156) 74.7 (124) 63.41 (26) 40 (6)	Comprehensive Assessment of At Risk Mental States (CAARMS; Yung et al. 2005) scale, and then DSM-IV criteria (APA, 1994).	None.	Patients were coded as exposed to 'SPA'. A specially designed questionnaire (the TIPP Initial Assessment Tool: TIAT).	Premorbid Social Adjustment Scale (PAS) (Cannon-Spoor et al. 1982).	Social and Occupational Functioning Assessment Scale (SOFAS; APA, 1994).	None.	Age, sex, socioeconomic status, history of substance abuse	Compared to the Non-SPA group, the level of functioning on the PAS Childhood Early Adolescence Social score (p = 0.0 (p = <0.001). We observed a significant Non-SPA groups regarding SOFAS (B scores over all time points. There was, 1 this regard between Late SPA and Non-S			
Boyette et al (2014)	Schizophrenia Bulletin	Amsterdam	Grant from Geestkracht program of the Dutch Health Research Council.	Longitudinal multicenter cohort study or prospective cohort	Psychotic disorders	Total Healthy controls Non-trauma clinical Trauma clinical	327 132 83 112	18-50	Not stated. 29.9 (9.2) 29.4 (6.3) 31.2 (7.9)		Not stated. 55.3% 83.1% 79.5%	DSM diagnoses relating to psychosis were based on the Comprehensive Assessment of Symptoms and History (CASH).	Positive and Negative Syndrome Scale (PANSS)	Childhood Trauma Questionnaire-Short Form (CTQ-SF).	None.	Social Functioning Scale (SFS). The World Health Organization Quality of Life-Bref (WHOQOL-BREF)???	NEO-FFI for personality traits.		MANOVA showed that patients in th terms of QoL social domain (F = 9.73, P Regarding social functioning, the differe trend level significance (F = 3.14, P = .0 SFS scale to reach statistical significance ' ηp2 = 0.03). PT+ reported more withdraw			
Conus et al (2010)	Schizophrenia Bulletin	Melbourne, Australia	Grants from Eli Lilly Company Australia & Leenaards Foundation.	Population-based cohort study. Fup 18 months treatment	First Episode Psychosis	Total Non-trauma clinical Trauma clinical	658 432 226	15-29	22.0 (3.4) 22.0 (3.3) 22.2 (3.6)		65.7 (432) 72.9 (315) 51.8 (117)	Structured Clinical Interview for DSM-IV (SCID).	None.	Structured clinical interview. Early Psychosis File Questionnaire (EPFQ) audit tool	Social adjustment was assessed with one item of the Premorbid Adjustment Scale (PAS).	None.	None.	GAF, DUP, Clinical Global Impressions-Severity of Illness Scale (CGI-S), SUD	Patients who had a history of SPA were : have fewer years of education (P<.001 functioning (as indicated by the PAS). I physical abuse only include lower premo 4.86, P < .001). PAS level trauma = 3.2 ( results = 5.66, df 653, p < .001.			
Haahr et al (2016)	Early Intervention in Psychiatry	Scandinavia	Health West, Norwegian National Research Council, Health and Social Affairs and others.	Cohort study, at 5 years fup or prospective cohort study	First Episode Psychosis	Total Non-trauma clinical Trauma clinical	191 136 55	18-65	27.9 (9.9) 28 (9.7) 27.8 (9.0)		Male n = 114 (60), n = 77 Female	The structured clinical interview for the DSM-IV axis I disorders (SCID-I).	Positive and Negative Syndrome Scale (PANSS).	BBTS interview, CECA-Q, and CTQ.	Premorbid Adjustment Scale (PAS).	Strauss-Carpenter scale.		DUP, GAF	Significant association between experienc the age of 18 and PAS social level last reg The main finding using the BBTS was th experience of early and close interpers adjustment, longer DUP and poorer base			
Kilian et al (2017)	PLOS ONE	Cape Town, South Africa	Grants from NEPAD, Medical Research Council of South Africa, & Lundbeck International.	Cross-sectional study	First Episode Psychosis	Total Healthy controls Clinical	129 52 77	16-45	Not stated. 25.1 (6.8) 24.7 (7.2)		Not stated. 35 (67.3) 56 (72.7)	Structured Clinical Interview for DSM-IV [SCID].	None.	Childhood Trauma Questionnaire (CTQ) short form.	Premorbid Adjustment Scale (PAS).	None.	Neurological Evaluation Scale (NES).	obstetric complications and substance abuse count	all CTQ subscales other than emotional the overall PAS score. However, while they were not strong, with effect sizes suggests that, in addition to childhood poor premorbid adjustment in psycho: significant correlations between CTQ : sizes were in the small (r = 0.1–0.3) t study adds to the evidence for an associ maltreatment and poor premorbid adjust			

## **Appendix C**

### **Modified Newcastle-Ottawa Quality Assessment Scale (NOS)**

A study can be awarded a maximum of one star for each numbered item within the Selection, Exposure, and Outcome categories. A maximum of two stars can be given for Comparability.

#### **Selection**

1) Is the sample/case definition adequate?

- a) Yes, with independent validation \*
- b) Yes, e.g. record linkage or based on self-reports
- c) No description

2) Representativeness of the sample/exposed cohort

- a) Truly representative of the average in the target population \*
- b) Somewhat representative of the average in the target population \*
- c) Selected group of users e.g. nurses, volunteers
- d) No description of the sampling strategy

3) Selection of the controls/non-exposed cohort

- a) Drawn from the same community as the sample/exposed cohort \*
- b) Drawn from a different source
- c) No description of the derivation of the non-exposed cohort

4) Definition of controls

- a) No history of disease/exposure \*
- b) No description of source

#### **Comparability**

5) Comparability of sample and control groups on the basis of the design or analysis

- a) Study controls for \_\_\_\_\_ (select the most important factor) \*

- b) Study controls for any additional factor \* (This criteria could be modified to indicate specific control for a second important factor.)

**Exposure**

## 6) Ascertainment of exposure

- a) Validated measurement tool \*
- b) Structured clinical interview \*
- c) Written self-report/non-validated
- d) No description

## 7) Same method of ascertainment for sample/case and controls

- a) Yes \*
- b) No

## 8) Non-response rate and description

- a) Same rate for both groups and clearly described \*
- b) Non-respondents described
- c) Rate different and no designation

**Outcome**

## 9) Assessment of outcome

- a) Validated measurement tool \*
- b) Structured clinical interview
- c) Written self-report/non-validated
- d) No description

**Total =     / 10**

This scale has been adapted from the Newcastle-Ottawa Quality Assessment Scale (NOS; Wells et al., 2014) for cohort and case-control studies to perform a quality assessment for this systematic review.

## Appendix D

## Quality Assessment of Included Studies

<i>Criteria</i>	<i>Acceptable (*)</i>	<i>Alameda et al. (2015)</i>	<i>Boyette et al. (2014)</i>	<i>Conus et al. (2010)</i>	<i>Haahr et al. (2018)</i>	<i>Kilian et al. (2017)</i>	<i>Lysaker &amp; Larocco (2009)</i>	<i>Lysaker et al. (2001)</i>	<i>Palmier-Claus et al. (2016)</i>	<i>Stain et al. (2014)</i>	<i>Trauelsens et al. (2016)</i>
<i>Selection</i>											
Is the Case Definition Adequate?	Yes, with independent validation.	*	*	*	*	*	*	*	*	*	*
Representativeness of Cases	Consecutive or somewhat representative series of cases, in a defined catchment area/clinic.	*	*	*	-	*	-	-	-	*	*
Selection of Controls	Drawn from the same community.	*	*	*	*	*	*	*	-	*	*
Definition of Controls	No history of exposure to childhood adversity/trauma.	*	*	*	*	*	*	*	*	*	*
<i>Comparability</i>											
Study Controls for Age/Gender	Yes.	*	-	-	-	-	*	-	*	*	*
Study Controls for at least 3 Additional Factors	Psychiatric disorder, adult trauma, substance use, attachment style, personality traits, treatment adherence, cognition, psychosis, level of support, parental education, socioeconomic status.	*	*	*	-	*	-	-	*	*	*
<i>Exposure</i>											
Ascertainment of Exposure	Structured clinical interview by clinician and/or validated measurement tool.	*	*	*	*	*	*	*	*	*	*
Same Method of Ascertainment for Cases and Controls	Yes.	*	*	*	*	*	*	*	*	*	-
Non-Response Rate	Same rate for both groups and clearly described.	*	-	-	*	-	-	-	-	*	-
<i>Outcome</i>											
Assessment of Outcome	Validated measurement tool.	*	*	*	*	*	*	*	*	*	*
<b>Total Quality Score (Maximum = 10)</b>		<b>10</b>	<b>8</b>	<b>8</b>	<b>7</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>7</b>	<b>10</b>	<b>8</b>

## Appendix E

### Author Guidelines for the *British Journal of Clinical Psychology*

The British Journal of Clinical Psychology publishes original contributions to scientific knowledge in clinical psychology. This includes descriptive comparisons, as well as studies of the assessment, aetiology and treatment of people with a wide range of psychological problems in all age groups and settings. The level of analysis of studies ranges from biological influences on individual behaviour through to studies of psychological interventions and treatments on individuals, dyads, families and groups, to investigations of the relationships between explicitly social and psychological levels of analysis.

All papers published in The British Journal of Clinical Psychology are eligible for Panel A: Psychology, Psychiatry and Neuroscience in the Research Excellence Framework (REF).

The following types of paper are invited:

- Papers reporting original empirical investigations
- Theoretical papers, provided that these are sufficiently related to the empirical data
- Review articles which need not be exhaustive but which should give an interpretation of the state of the research in a given field and, where appropriate, identify its clinical implications
- Brief reports and comments

#### 1. Circulation

The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.



## 2. Length

The word limit for papers submitted for consideration to BJCP is 5000 words and any papers that are over this word limit will be returned to the authors. The word limit does not include the abstract, reference list, figures, or tables. Appendices however are included in the word limit. The Editors retain discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length. In such a case, the authors should contact the Editors before submission of the paper.

## 3. Submission and reviewing

All manuscripts must be submitted via Editorial Manager. The Journal operates a policy of anonymous (double blind) peer review. We also operate a triage process in which submissions that are out of scope or otherwise inappropriate will be rejected by the editors without external peer review to avoid unnecessary delays. Before submitting, please read the terms and conditions of submission and the declaration of competing interests. You may also like to use the Submission Checklist to help you prepare your paper.

By submitting a manuscript to or reviewing for this publication, your name, email address, and affiliation, and other contact details the publication might require, will be used for the regular operations of the publication, including, when necessary, sharing with the publisher (Wiley) and partners for production and publication. The publication and the publisher recognize the importance of protecting the personal information collected from users in the operation of these services, and have practices in place to ensure that steps are taken to maintain the security, integrity, and privacy of the personal data collected and processed. You can learn more at <https://authorservices.wiley.com/statements/data-protection-policy.html>.

#### 4. Manuscript requirements

- Contributions must be typed in double spacing with wide margins. All sheets must be numbered.
- Manuscripts should be preceded by a title page which includes a full list of authors and their affiliations, as well as the corresponding author's contact details. You may like to use this template. When entering the author names into Editorial Manager, the corresponding author will be asked to provide a CRediT contributor role to classify the role that each author played in creating the manuscript. Please see the Project CRediT website for a list of roles.
- The main document must be anonymous. Please do not mention the authors' names or affiliations (including in the Method section) and refer to any previous work in the third person.
- Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript but they must be mentioned in the text.
- Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate sheet. The resolution of digital images must be at least 300 dpi. All figures must be mentioned in the text.
- All papers must include a structured abstract of up to 250 words under the headings: Objectives, Methods, Results, Conclusions. Articles which report original scientific research should also include a heading 'Design' before 'Methods'. The 'Methods' section for systematic reviews and theoretical papers should include, as a minimum, a description of the methods the author(s) used to access the literature they drew upon. That is, the abstract should summarize the databases that were consulted and the search terms that were used.

- All Articles must include Practitioner Points – these are 2–4 bullet points to detail the positive clinical implications of the work, with a further 2–4 bullet points outlining cautions or limitations of the study. They should be placed below the abstract, with the heading ‘Practitioner Points’.
- For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full and provide DOI numbers where possible for journal articles.
- SI units must be used for all measurements, rounded off to practical values if appropriate, with the imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations, etc. for which they do not own copyright. For guidelines on editorial style, please consult the APA Publication Manual published by the American Psychological Association.

If you need more information about submitting your manuscript for publication, please email Vicki Pang, Editorial Assistant ([bjc@wiley.com](mailto:bjc@wiley.com)) or phone +44 (0) 1243 770 410.

## Appendix F

### University of Liverpool Ethics Committee Approval Letter



Health and Life Sciences Committee on Research Ethics (Psychology, Health and Society)

8 February 2017

Dear Dr Bennett,

I am pleased to inform you that your application for research ethics approval has been approved. Details and conditions of the approval can be found below:

Reference:	1410
Project Title:	Using A Cognitive Analytic Therapy (CAT) Approach to Make Sense of Psychosis.
Principal Investigator/Supervisor:	Dr Kate Bennett
Co-Investigator(s):	Miss Saba Haq
Lead Student Investigator:	-
Department:	Psychological Sciences
Reviewers:	Prof Ian Donald, Dr Alex Forsythe
Approval Date:	08/02/2017
Approval Expiry Date:	Five years from the approval date listed above

The application was **APPROVED** subject to the following conditions:

#### **Conditions**

- All serious adverse events must be reported via the Research Integrity and Ethics Team ([ethics@liverpool.ac.uk](mailto:ethics@liverpool.ac.uk)) within 24 hours of their occurrence.
- If you wish to extend the duration of the study beyond the research ethics approval expiry date listed above, a new application should be submitted.
- If you wish to make an amendment to the research, please create and submit an amendment form using the research ethics system.
- If the named Principal Investigator or Supervisor leaves the employment of the University during the course of this approval, the approval will lapse. Therefore it will be necessary to create and submit an amendment form using the research ethics system.
- It is the responsibility of the Principal Investigator/Supervisor to inform all the investigators of the terms of the approval.

Kind regards,

Health and Life Sciences Committee on Research Ethics (Psychology, Health and Society)

[iphsrec@liverpool.ac.uk](mailto:iphsrec@liverpool.ac.uk)

0151 795 5420

## Appendix G

## Health Research Authority (HRA) Approval Letter



**Health Research Authority**

Dr Kate M. Bennett  
 Reader and Head of School of Psychology / Chartered  
 Health Psychologist  
 University of Liverpool  
 Room 2.30, Department of Psychological Sciences  
 Eleanor Rathbone Building, University of Liverpool  
 Bedford Street South, Liverpool  
 L69 7ZA

Email: [hra.approval@nhs.net](mailto:hra.approval@nhs.net)

03 March 2017

Dear Dr Bennett

**Letter of HRA Approval**

<b>Study title:</b>	<b>Using A Cognitive Analytic Therapy (CAT) Approach to Make Sense of Psychosis: A Grounded Theory Exploration of Clinicians' Experiences</b>
<b>IRAS project ID:</b>	<b>224192</b>
<b>Protocol number:</b>	<b>UoL001288</b>
<b>Sponsor</b>	<b>University of Liverpool</b>

I am pleased to confirm that HRA Approval has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications noted in this letter.

**Participation of NHS Organisations in England**

The sponsor should now provide a copy of this letter to all participating NHS organisations in England.

- *Participating NHS organisations in England* – this clarifies the types of participating organisations in the study and whether or not all organisations will be undertaking the same activities
- *Confirmation of capacity and capability* - this confirms whether or not each type of participating NHS organisation in England is expected to give formal confirmation of capacity and capability. Where formal confirmation is not expected, the section also provides details on the time limit given to participating organisations to opt out of the study, or request additional time, before their participation is assumed.
- *Allocation of responsibilities and rights are agreed and documented (4.1 of HRA assessment criteria)* - this provides detail on the form of agreement to be used in the study to confirm capacity and capability, where applicable.

Further information on funding, HR processes, and compliance with HRA criteria and standards is also provided.

IRAS project ID	224192
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It is critical that you involve both the research management function (e.g. R&D office) supporting each organisation and the local research team (where there is one) in setting up your study. Contact details and further information about working with the research management function for each organisation can be accessed from [www.hra.nhs.uk/hra-approval](http://www.hra.nhs.uk/hra-approval).

### Appendices

The HRA Approval letter contains the following appendices:

- A – List of documents reviewed during HRA assessment
- B – Summary of HRA assessment

### After HRA Approval

The attached document *“After HRA Approval – guidance for sponsors and investigators”* gives detailed guidance on reporting expectations for studies with HRA Approval, including:

- Working with organisations hosting the research
- Registration of Research
- Notifying amendments
- Notifying the end of the study

The HRA website also provides guidance on these topics and is updated in the light of changes in reporting expectations or procedures.

### Scope

HRA Approval provides an approval for research involving patients or staff in NHS organisations in England.

If your study involves NHS organisations in other countries in the UK, please contact the relevant national coordinating functions for support and advice. Further information can be found at <http://www.hra.nhs.uk/resources/applying-for-reviews/nhs-hsc-rd-review/>.

If there are participating non-NHS organisations, local agreement should be obtained in accordance with the procedures of the local participating non-NHS organisation.

### User Feedback

The Health Research Authority is continually striving to provide a high quality service to all applicants and sponsors. You are invited to give your view of the service you have received and the application procedure. If you wish to make your views known please email the HRA at [hra.approval@nhs.net](mailto:hra.approval@nhs.net). Additionally, one of our staff would be happy to call and discuss your experience of HRA Approval.

### HRA Training

We are pleased to welcome researchers and research management staff at our training days – see details at <http://www.hra.nhs.uk/hra-training/>

Your IRAS project ID is 224192. Please quote this on all correspondence.

IRAS project ID	224182
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Yours sincerely

**Miss Lauren Allen**  
**Assessor**

Email: [hra.approval@nhs.net](mailto:hra.approval@nhs.net)

Copy to: *Mr Alex Astor (Sponsor contact)*  
*Ms Karen Bruce, Mersey Care NHS Trust (Lead NHS R&D contact)*

*Participating NHS organisations in England*

## Appendix H

### E-mail Invitation for Study Participation



### E-mail Invitation

Dear Prospective Participant

I am inviting you to take part in a research study on conceptualising and working with psychotic experiences (e.g., voice hearing) using Cognitive Analytic Therapy (CAT).

You have been chosen to take part as you are a qualified health professional, an accredited CAT practitioner, and you may have recent experience (within 12 months) of using CAT therapeutically with people who have experiences of psychosis.

Participation would involve a semi-structured interview with myself (lead researcher). The interview would last approx. 45-60 minutes, either face-to-face or Skype interview.

- 1. Please take time to read the attached 'participant information' sheet. Feel free to ask if there is anything that is not clear or if you would like more information about the study.**
- 2. If you are interested in taking part in my study, please complete the attached 'expression of interest' form and 'demographic information' sheet and return to myself via e-mail.**
- 3. I would be grateful if you could also pass on the 'participant information' sheet to anyone else who you think might be interested in and suitable for this study.**

I look forward to hearing from you. Thank you for your time.

Yours sincerely

**Saba Haq**  
**Trainee Clinical Psychologist**

*Doctorate in Clinical Psychology*  
*University of Liverpool*  
*Whelan Building*  
*Brownlow Hill*  
*Liverpool*  
*L69 3GB*



## Appendix I

### Participant Information Sheet



### Participant Information Sheet

**Title of Study:** Using a Cognitive Analytic Therapy (CAT) Approach to Make Sense of Psychosis.

**Researcher:** Saba Haq (Trainee Clinical Psychologist).

Dear prospective participant,

I am inviting you to take part in a research study as part of a thesis (Doctorate in Clinical Psychology). Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully, and feel free to ask if there is anything that is not clear or if you would like more information.

#### 1. What is the purpose of the study?

The purpose of the current study is to try to understand how you conceptualise psychotic experiences (e.g., voice hearing) using Cognitive Analytic Therapy (CAT) theory and concepts, when working therapeutically with people who have experiences of psychosis. The study will give an opportunity for you to think about the structure and model of CAT, the ways in which the specific CAT concepts can be applied to psychotic experiences, and working with and making sense of psychosis.

Data would be gathered through either a face-to-face or Skype interview lasting approximately between 45-60 minutes. The interview would be digitally audio-recorded and transcribed for data analysis. It is estimated that the data collection for the study will be completed by February 2018.

#### 2. Why have I been invited?

You have been chosen to take part as you are a qualified health professional, an accredited CAT practitioner, and have recent experience (within 12 months) of using CAT therapeutically with people who have experiences of psychosis.

#### 3. Do I have to take part?

No, your participation is entirely voluntary. If you do decide to take part, we will ask you to sign a 'consent' form to show that you have read this 'participant information' sheet and have agreed to take part.

#### **4. What will I have to do if I take part?**

- a) If you agree to take part in the study, you will be required to complete the attached 'expression of interest' form and 'demographic information' sheet, and return to the researcher via e-mail.
- b) All people who express an interest to participate in the study will be contacted (via telephone or e-mail). The researcher will contact you to arrange a date, time, and location for the interview that is convenient for you.
- c) You will be asked to choose your preferred interview method, either face-to-face (taken place at your work setting) or via Skype.
- d) You will be asked to read and sign a 'consent' form to say that you agree to take part in the study, and that you agree for the interview to be digitally audio-recorded.
- e) The interview will be semi-structured and will last between 45-60 minutes, in which time we would discuss your experiences and perceptions of conceptualising and working with psychosis using CAT. There will be an opportunity at the end of the interview for you to ask any questions, and this will not be audio-recorded.
- f) The audio-recorded interview would be then transcribed in to written format by either the researcher or a paid University-approved transcriber. All transcriptions will be anonymous, allocated a unique ID number, and pseudonyms will be used for both your details and any client information which was discussed.

#### **5. Will my taking part in the study be kept confidential?**

If you were to participate in the study, you will be asked to use non-identifiable information when discussing clients and colleagues in order to preserve anonymity. Everything you discuss would remain strictly confidential and your place of work will not be informed, unless however you were to disclose something that would put yourself or someone else at harm or in danger. If this were to happen, then I would try to discuss my concerns with you, and advise you to discuss further with your line manager or supervisor. I would also have a responsibility to discuss my concerns with my research supervisors who would advise me on what to do next.

All information collected will be stored electronically and securely in password-protected documents within the Department of Psychological Sciences, in accordance with University of Liverpool guidelines, for a minimum of ten years before being destroyed. The primary research supervisor will act as data custodian for this study.

#### **6. Will I be paid for taking part?**

As compensation for your time, by completing this study you will be entering a prize draw. Two people will win store vouchers worth £50 each.

#### **7. What are the possible benefits of taking part?**

There is no direct benefit for you, but it is hoped that the information we get from this research will help to improve the existing knowledge-base around conceptualising and working with psychosis using CAT, as well as inform the way services deliver psychological therapies for people with experiences of psychosis in the future.

**8. What are the possible disadvantages and risks of taking part?**

There are no expected adverse effects from participating in the study. However, before deciding to take part, you should consider if this will affect any insurance you have and seek advice if necessary.

**9. What will happen if I want to stop taking part?**

You are free to withdraw from the study at any time, without giving a reason and without incurring any disadvantage.

**10. What will happen to the results of the study?**

The results will be written up as a thesis which will be submitted to the University of Liverpool as part of the requirements for the researcher to gain a Doctorate in Clinical Psychology. It is hoped that the current study will be published in a relevant peer-reviewed journal. A summary of the study's findings will be sent to all participants via e-mail, following completion of the study in September 2018.

**11. Who has reviewed and approved the study?**

This study has been reviewed and given favourable opinion by the University of Liverpool Research Ethics Committee.

**12. Who can I contact if I have further questions?**

If you have any further questions, queries, or concerns about any aspect of this study, please contact the lead researcher Saba Haq via e-mail: [sabahaq@liverpool.ac.uk](mailto:sabahaq@liverpool.ac.uk).

Alternatively, you can contact the research supervisors of the study via e-mail:  
Academic Supervisor - Dr Kate M Bennett, [K.M.Bennett@liverpool.ac.uk](mailto:K.M.Bennett@liverpool.ac.uk) or  
Field Supervisor - Dr Claire Seddon, [Claire.Seddon@merseycare.nhs.uk](mailto:Claire.Seddon@merseycare.nhs.uk).

**Thank you for taking the time to read this information sheet.**

**Appendix J****Demographic Information Sheet****Demographic Information Sheet**

**Title of Study:** Using a Cognitive Analytic Therapy (CAT) Approach to Make Sense of Psychosis.

**Researcher:** Saba Haq (Trainee Clinical Psychologist).

**Please complete all fields using BLOCK CAPITALS.**

- a) **Age:**
- b) **Sex:**
- c) **What is your job title?**
- d) **What service(s) and location(s) do you work in?**
- e) **How long have you been an accredited CAT practitioner?**
- f) **Have you used CAT with people who have experiences of psychosis within the last 12 months?**
- g) **Which psychotic experiences or difficulties have you worked with using CAT?** *(Such as auditory/visual hallucinations, delusional beliefs, distorted thoughts, disorganised speech, catatonia, psychotic depression etc.).*
- h) **When was the last time you delivered CAT for psychosis?**

**Thank you for completing the demographic information sheet.**

**Appendix K****Expression of Interest Form****Expression of Interest Form**

**Title of Study:** Using a Cognitive Analytic Therapy (CAT) Approach to Make Sense of Psychosis.

**Researcher:** Saba Haq (Trainee Clinical Psychologist).

If you have read and understand the 'participant information' sheet, and would like to take part in the above study then please complete the form below and return to the lead researcher via e-mail: [sabahaq@liverpool.ac.uk](mailto:sabahaq@liverpool.ac.uk).

I will then contact you via telephone or e-mail to arrange a date, time, and location for the interview that is convenient for you, as well as to complete the 'participant consent' form should you wish to participate.

**Please complete all fields using BLOCK CAPITALS.**

**Full Name:**

**Job Title:**

**Work Place:**

**Organisation:**

**Telephone Number:**

**E-mail address:**

**Preferred Interview Method:**

☐ **Face-to-Face - taken place at your work setting: .....**

**OR**

☐ **Skype - skype username or email address is: .....**

**Thank you for your interest in participating in this study.**

## Appendix L

## Participant Consent Form



## Participant Consent Form

**Title of Study:** Using a Cognitive Analytic Therapy (CAT) Approach to Make Sense of Psychosis.

**Researcher:** Saba Haq (Trainee Clinical Psychologist).

*Please initial box*

1. I confirm that I have read and have understood the information sheet dated 11/11/2016 for the above study. I have had the opportunity to consider the information, ask questions, and have had these answered satisfactorily by the researcher. ☐
2. I understand that my participation is voluntary, and that I am free to withdraw from the study at any time without giving any reason, and without my rights and employment being affected. ☐
3. I consent to the interview being digitally audio-recorded and then transcribed anonymously. ☐
4. I consent to direct verbatim quotes from the anonymised transcript of my interview being used in the write up of the thesis and in any published journal articles. ☐
5. I understand that all information, audio-recordings, and transcripts will be kept electronically and stored securely within the Division of Clinical Psychology, University of Liverpool. Only the lead researcher and her research supervisors will have access to this data. The data will be kept for 10 years and then destroyed. ☐
6. I agree to take part in the above study. ☐

---

Name of Participant

---

Date

---

Signature

---

Name of Researcher

---

Date

---

Signature

## Appendix M

### Interview Schedule 1



### Interview Schedule v1

**Title of Study:** Using a Cognitive Analytic Therapy (CAT) Approach to Make Sense of Psychosis.

**Researcher:** Saba Haq (Trainee Clinical Psychologist).

#### Introduction (not audio-recorded) – approx. 5 mins

- a. "Thank you for participating."
- b. Re-visit participant information sheet, consent form, and demographics sheet.
- c. Explain procedure for interview (time frame, audio-recording, process etc.).
- d. "Throughout the interview, please use non-identifiable information when discussing clients, colleagues, and services in order to preserve anonymity."
- e. "Do you have any questions before we start the interview?"

#### Semi-structured Interview (digitally audio-recorded)

- a. Begin recording.
- b. State participant ID number for the tape.
- c. "Thank you for agreeing to take part in this study. I would like to gain an understanding of your experiences and perceptions of conceptualising psychosis using the CAT approach. I have several questions to ask you, which will cover a number of areas. If for any reason you prefer not to answer any of the questions, then please do not hesitate to say so and we can move on to the next question."
- d. Ask the following interview questions, and use the prompts if necessary:

#### GENERAL

1. Why are you using CAT with people who with experiences of psychosis?

*Prompts: What aspects of CAT have you found useful when working with psychosis? What aspects of CAT have you found unhelpful when working with psychosis?*

2. Broadly speaking, how has CAT theory shaped your conceptualisation of psychosis?

*Prompts: How has the theoretical aspects of CAT theory (e.g., dialogic model of self) influenced your understanding of psychosis? What are your reflections on this?*

3. What are the circumstances when you have offered CAT to someone who was experiencing psychosis?

*Prompts: What criteria did you use when deciding if a client with psychosis is suitable for CAT? Which psychotic experiences have you worked with using CAT?*

4. What are the circumstances when you have not offered CAT to someone who was experiencing psychosis?

*Prompts: If a client was acutely psychotic, would you use the CAT approach with them? If not, why not?*

5. When using CAT for psychosis, how have you prepared clients for therapy?

*Prompts: What have you done with clients before delivering CAT? How have you socialised them to the CAT model? Which CAT model have you used? Why?*

### ASSESSMENT

6. Once you have decided to offer CAT, what assessment questions have you asked a client who is presenting with psychotic experiences?

*Prompts: What information did you gather about their psychotic experiences? How have you assessed psychosis?*

7. How have you assessed outcomes when delivering CAT with this client group?

*Prompts: Which outcome measures have you used? Why this one in particular?*

8. Under what circumstances have you used the psychotherapy file?

*Prompts: Can you tell me a time when you used the psychotherapy file with a client experiencing psychosis. Why did you use it? Which version did you use?*

9. Drawing on your CAT for psychosis experiences to date, which target problems were found to be most common in clients experiencing psychosis?

### REFORMULATION

10. How have you described the relationship between the client and the voices they hear/things they see/beliefs they have in the reformulation letter?

*Prompts: Give me an example of a client you have worked with. Can you tell me how the reformulation letter has shaped your conceptualisation of psychosis?*

11. Can you tell me how you illustrated and represented the different psychotic experiences on the SDR/map?

*Prompts: Think about recent clients you have used CAT with and describe how their SDRs looked like. What factors do you think have influenced how psychosis was represented on the SDRs you have mapped out?*

12. How do you think psychosis is broadly captured in the reciprocal roles, enactments, and self-states?

*Prompts: What are your reflections on this? Which reciprocal roles have you found to be most common in this client group? Which reciprocal roles have you found to be related to clients' relationship with their psychotic experiences?*

13. How has your experience (if any) of using systemic/contextual reformulation shaped your conceptualisation of psychosis? *Prompt: How has contextual reformulation influenced other people's views of psychosis?*



RECOGNITION

14. Drawing on your CAT for psychosis therapy experiences to date, what have you noticed about reciprocal roles procedures associated with psychotic experiences?

*Prompts: Have you noticed any patterns between RRP's and specific psychotic experiences? Which RRP's have you found to be most common in this client group?*

15. How receptive is this client group to recognising and making links between past enactments and present relationships with their voices/other psychotic difficulties?

*Prompts: Have there been any specific challenges related to this (e.g., seeling over)? How has the recognition phase of CAT shaped your conceptualisation of psychosis?*

16. Can you tell me about your relational experiences of being with the client (who has experiences of psychosis)?

*Prompts: How was this? What was going on? How did the use of transference and counter-transference help or hinder this experience? What are your reflections on this?*

REVISION

17. How receptive is this client group to developing new exits?

*Prompts: What are the most common exits that clients were trying to achieve in therapy? What other therapeutic approaches, modalities, and tools have you drawn upon when working with exits with this client group?*

18. How has your experiences of doing 'endings'/a goodbye letter with this client group shaped your conceptualisation of psychosis?

*Prompt: How has the revision and ending stage of CAT shaped your conceptualisation of psychosis?*

19. How do you think that your conceptualisation and understanding of psychosis has changed over time?

*Prompts: What about before and after CAT training? How has CAT training influenced your conceptualisation of psychosis?*

20. Is there anything that we have not discussed that you would like to?

- a. "Thank you for your time. The interview is now over."
- b. Stop recording.

**Ending (not audio-recorded) – approx. 5 mins**

- a. "How are you feeling after the interview?" (Any issues raised requiring further discussion?)
- b. "What happens next? — Interview will be anonymised, allocated an ID number, and transcribed. I will then analyse the transcript using grounded theory analysis. The study will be completed by June 2018."
- c. "Would you like a summary of the study's findings?"
- d. "Do you have any other questions?"
- e. "Thank you for your time."

## Appendix N

### Interview Schedule 2



### Interview Schedule v2

**Title of Study:** Using a Cognitive Analytic Therapy (CAT) Approach to Make Sense of Psychosis.

**Researcher:** Saba Haq (Trainee Clinical Psychologist).

#### Introduction (not audio-recorded) – approx. 5 mins

- a. “Thank you for participating.”
- b. Re-visit participant information sheet, consent form, and demographics sheet.
- c. Explain procedure for interview (time frame, audio-recording, process etc.).
- d. “Throughout the interview, please use non-identifiable information when discussing clients, colleagues, and services in order to preserve anonymity.”
- e. “Do you have any questions before we start the interview?”

#### Semi-structured Interview (digitally audio-recorded)

- a. Begin recording.
- b. State participant ID number for the tape.
- c. “Thank you for agreeing to take part in this study. I would like to gain an understanding of your experiences and perceptions of conceptualising psychosis using the CAT approach. I have several questions to ask you, which will cover a number of areas. If for any reason you prefer not to answer any of the questions, then please do not hesitate to say so and we can move on to the next question.”
- d. Ask the following interview questions, and use the prompts if necessary:

1. Why are you using CAT with people with experiences of psychosis?

*Prompts: Why do you use CAT generally? What aspects of CAT have you found useful when working with psychosis? What aspects have you found unhelpful, if any?*

2. Broadly speaking, how has CAT shaped your conceptualisation of psychosis?

*Prompts: How has the theoretical aspects of CAT (e.g., dialogic model of self) influenced your understanding of psychosis? What are your reflections on this?*

3. How do you think that your understanding of psychosis has changed over time?

*Prompts: How has CAT training influenced your conceptualisation of psychosis? How has relevant theory and research shaped your understanding of psychosis?*

4. What are the circumstances when you have offered or not offered CAT to someone who was experiencing psychosis?

*Prompts: What criteria did you use when deciding if a client with psychosis is suitable for CAT? Which psychotic experiences have you worked with using CAT?*

5. When using CAT for psychosis, how have you prepared clients for therapy?

*Prompts: What have you done with clients before delivering CAT? How have you socialised them to the CAT model? What were the barriers to this?*

6. Drawing on your CAT for psychosis experiences to date, which target problems and reciprocal roles were found to be most common in clients experiencing psychosis?

7. Can you tell me how you illustrated and represented the different psychotic experiences on the SDR/map?

*Prompts: Think about recent clients you have used CAT with and describe how their SDRs looked like. What factors do you think have influenced how psychosis was represented on the SDRs you have mapped out?*

8. How do you think psychosis is broadly captured in the use of self-states, core pain, and reciprocal roles procedures?

*Prompts: What are your reflections on this? Which intolerable emotions were found to be most common in this client group? Why do you think this is?*

9. Drawing on your CAT for psychosis therapy experiences to date, what have you noticed about reciprocal roles procedures associated with psychotic experiences?

*Prompts: Have you noticed any patterns between RRP and specific psychotic experiences? Which RRP have you found to be most common in this client group?*

10. Can you tell me about your relational experiences of being with the client (who has experiences of psychosis)?

*Prompts: How was this? What was going on? How did the use of transference and countertransference help or hinder this experience? What are your reflections on this?*

11. Is there anything that we have not discussed that you would like to?

- a. "Thank you for your time. The interview is now over."
- b. Stop recording.

### **Ending (not audio-recorded) – approx. 5 mins**

- a. "How are you feeling after the interview?" (Any issues raised requiring further discussion?)
- b. "What happens next? — Interview will be anonymised, allocated an ID number, and transcribed. I will then analyse the transcript using grounded theory analysis. The study will be completed by June 2018."
- c. "Would you like a summary of the study's findings?"
- d. "Do you have any other questions?"
- e. "Thank you for your time."

## Appendix O

## Example of Written Memo About an Interview

Memo for Interview

Talked about safety, unsafe (sense of), and threat/danger (intolerable feelings, reciprocal roles, early experiences).

Gender differences

Feeling safe or unsafe

In therapy room (boundaries)

Safe space

Personal/Therapist transference

Therapeutic relationship + engagement

Reciprocal roles

Threatening / Threatened

Psychotic experiences eg. paranoia, hostile, suspicious

Acutely unwell

Considering ZPD

**Safety in Relationships**

Consequences = better outcomes, more engagement in therapy process, transparency in CAT, 'naming' it

## Appendix P

## Example of Codes for an Interview Transcript

<i>Interview Transcript</i>	<i>Initial Code</i>	<i>Focused Code</i>
<b>So, broadly speaking, why CAT? And why CAT for psychosis?</b>		
Ooh. Why CAT? I think, personally, I think in terms of attachment	Linking attachment to CAT	Developmental ideas
and relationships, developmental, I love the fact that CAT is a	CAT is a developmental model	
developmental model. It doesn't just pluck people from the air		
and they suddenly stop working properly, or stop functioning, like		
a machine breaking down. I really like the idea that it's a	Being positive about CAT	Evaluating CAT
developmental model that talks about how we all develop and		
what could get in the way of us developing healthily, I guess. So	Conceptualising development of emotional difficulties	Developmental ideas
it's very normalising, very de-shaming, non-stigmatising, and,	CAT is a normalising approach	Normalising approach
erm, yes, it makes sense that you might have these kind of		
problems or experiences given that we know this, this, and this		
happened to you. So I guess, personally, that feels comfortable for		
me. I've always worked in early intervention in psychosis (EIP).	Being clinically experienced with psychosis	Socialised to psychosis / experienced clinician
<b>Okay.</b>		
Since I graduated, so, what's that, six or seven years ago? My		
elective was in EIP and I've always stayed and worked in EIP. And		
because so much of working with psychosis is about engaging	Building rapport and engagement	Therapeutic relationship
people, forming a relationship, trying to establish a relationship of	Building trust at first	
trust, and then normalising. Because people with psychosis are,	Importance of normalising	
they are not in dialogue, they are freaked out, they don't recognise	Conceptualising clients as not in dialogue	
themselves, they don't recognise reality. They have real problems		
connecting with others. So, even using the CBT framework, your	Presenting problem of connecting with others	Therapeutic relationship
main job is to get them in the room with you. You have to be		
genuine in yourself, you can't bullshit people with psychosis	Being genuine	Authenticity
because they've got bullshit detectors a mile wide. So you have to		
be very genuine, you have to be very in the room with them, and		
very responsive. And then a lot of those conversations, even using	Being responsive in therapy	Therapeutic relationship
CBT, are about normalising, because we- most- the common		Normalising approach
understanding is that psychosis is not understandable, and we		
psychologists disagree with it. We think it's on a continuum of	Conceptualising psychosis on continuum of normal human experience	Psychosis on a continuum
normal human experience and we know that certain things,		
particularly trauma, early trauma, are- make us more likely. Given	Early trauma leads to psychosis	Childhood adversity
enough trauma all of us become psychotic. Given enough lack of		
sleep all of us become psychotic at some point.	Poor sleep leads to psychosis	